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HYGEIA

The HEALTH MAGAZINE

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April, 1932
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Cancer

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NUTRITION AND HUMAN WELFARE

By SIR FREDERICK GOWLAND HOPKINS, PRES. ROYAL SOCIETY

WHILE the health, the capacity, and the effective activities, alike of a race and of an individual, are primarily determined by inherited factors, all are secondarily influenced by the environment in which the race or individual has developed and exists. * * * It is sure that there is always a relation between the qualities of its basal foodstuffs and the effective activities of a race, a circumstance which it is of sociological and ethnological importance to recognize. During the whole of history the needs of nutrition and the kind and amount of foods geographically available have played a great part in determining the destiny of races. Inadequacy in the supply has in some cases stunted innate capacities and led to the degeneration of a race; more generally in the past it has stimulated effort and led to migrations and wars of aggression.

It is often felt that concerning matters so urgent as its own nutrition, humanity, with all the experience of the ages behind it, can have little to learn from modern science, yet, as in the case of so many other established traditions, an assumption of this kind is wholly unjustified. Tradition accumulates prejudices quite as often as truths, and the former are apt to be more potent in their influence. With sufficient space it would be easy to show that faulty nutrition has played a large part in inhibiting human progress, and even to show that few races have at any time been ideally nourished. One need not go far back in history to illustrate this. In the most prosperous days of the Victorian era the methods of infant feeding in this country were exceedingly faulty, and had dire results. When the food supplies of existing native races are studied they are often found to be so deficient in certain essentials as to limit the productive capacity of the races in question.

That scientific research during recent years has greatly emphasized the importance of right nutrition as a factor in human welfare is very sure. Anyone indeed who troubles to compare even the recent past with the present will realize that research has wholly changed the outlook in the domain of nutrition. Only a couple of generations ago it was supposed that a community in which the crude appetite of all individuals is duly satisfied, and obvious starvation avoided, is a community adequately nourished. Ill-health and inadequate performance in such a community must, it was assumed, be due to causes in which nutrition has no part. We now know that the satisfaction of appetites by mere bulk consumption is no final proof that a food supply is adequate, and this is as true of the animals which we breed for our uses as it is of ourselves. Quality in food is at least as important as quantity; details are of the utmost significance; the absence of factors which add almost nothing to the bulk of a dietary may make the whole entirely inadequate. We know now that conditions recognized as actual diseases develop because the supply of some minute nutritional necessity has failed, while, short of obvious disease, ill-health may depend upon a lesser degree of such a deficiency. Lack of substances of which the necessary amount is equally small may be responsible for failure of proper growth in the young, and for loss of fertility in the adult. Recent observations seem even to have shown that fundamental instincts, such as maternal care for the progeny, may, in animals at least, be affected by the absence of a factor from the diet! In all individuals such a lack may greatly increase the liability to infection by bacteria and other parasites. Facts such as these are already established. There are countless others to be discovered.

The earlier scientific studies which dealt with accurate measurements of the energy value of human dietaries or animal rations provided data of fundamental and permanent value, for once a ration has been properly balanced in detail its fuel value becomes a measure of its adequacy. Studies of the kind must and will continue; but the conditions in which such determinations have hitherto been made were not such as to reveal the great importance of those minor but essential factors of which the lack has such profound effects. The appraisement of the importance of each and all of these factors (for they are certainly many) has called for a different type of experiment involving a technique which is now rapidly growing in accuracy and reliability.

We now know as a result of properly controlled observations and experiments that the animal body may suffer, on the lines already mentioned, from deficiencies alike in the supply of minerals and in the supply of subtle organic factors.

SIR FREDERICK GOWLAND HOPKINS

Professor of Biochemistry at the University of Cambridge and Trinity College, Sir Frederick was recently awarded the Nobel Prize for his pioneer recognition of the existence and significance of vitamins in nutrition. So numerous and so outstanding have been Sir Frederick's contributions to the science of nutrition that *The Scientific Monthly* feels that "the award might have been made to him on any one of a great variety of bases."

An adequate provision, for instance, of lime, magnesium and iron, to think only of familiar substances, is as essential as any other aspect of nutrition, and what is significant is that human dietaries and no less animal rations, pastures, and crops grown for feeding stock, may be deficient in these fundamentals, and so lead to untoward results which have hitherto escaped proper evaluation. We are learning, moreover, of unexpected mineral needs; even metals such as copper and manganese are apparently essential to the animal body, though, of course, in very small amounts. Of the substances which we have come to call vitamins there are certainly many, and a supply of each one is necessary because each exercises its own quite specific functions in the body. Modern studies are making it clear indeed that nutritional needs are in reality very complex; so complex that the results of these studies sometimes awaken skepticism among those who have not appraised the evidence. They are conclusive, however, to those who have seen them at first-hand. To keep abreast with current gains in knowledge of the kind cannot but be profitable to a wide public apart from those who are directly concerned with research.—*Extract from Foreword to first issue of Nutrition Abstracts and Reviews, October, 1931.*

The Progress of Nutrition As a Science

Editorial, Journal of the American Medical Association, January 16th, 1931.

"The advance in our knowledge of nutrition represents one of the most significant factors for the welfare of mankind that have developed in recent years. . . . Most people take it for granted that the type of human being that constitutes what is called a normal man today is the best type of human being that can be produced, notwithstanding the fact that careful breeding and scientific housing and feeding of animals enable the breeder to develop superlative stock. . . . When the majority of human beings have sufficient knowledge to appreciate the true import of the many factors already established as of importance in nutrition, much good will have been accomplished for mankind in general."

BABIES SUPERVISED BY PHYSICIANS ARE BETTER BABIES

This space is devoted to the interest of better babies by
MEAD JOHNSON & COMPANY, *Evansville, Ind.*

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AMONG HYGEIA ADVERTISERS

If you walk through the main concourse of the Chicago Union Station, your eye is almost certain to be attracted to a big yellow and black mechanical monstrosity. At a distance, it looks like a cross between an ordinary farm wagon and a steam engine. But, on reading the placard, you find that here is an exact replica of the locomotive built by George and Robert Stephenson in 1829. It was used in the famous Rainhill trials near Liverpool, England, to determine the relative merits of horses, cable power or locomotives. A prize of five hundred pounds sterling had been offered for the best engine which would haul six tons at ten miles per hour. In keeping with this terrific speed requirement, the Stephensons named their locomotive "The Rocket." Its triumph is history. It not only met the requirements, but actually averaged fifteen miles per hour, and at times ploughed through space at the breathtaking velocity of twenty-nine miles per hour.

We smile to see that "Rocket" of a century ago, and to think of the stupendous developments in transportation methods since that time—bigger and bigger locomotives, faster and faster trains, automobiles that outrace those trains, aeroplanes that outspeed the speediest automobiles. And, finally, like a prophetic fulfilment of the Stephenson brothers' ideal, we see inventors today giving serious attention to applying actual explosive rockets to vehicles for propelling them through space at a speed little less than that of a cannon ball. What an exciting panorama of progress! Exciting, because we can see it, perceive it with our senses and fully understand it.

By contrast, think how quietly, how invisibly, most of our great developments regarding the health of human beings have come—the discovery of various germs, the development of vaccines and viruses, the revealing of the vitamins and their functions. Work of this kind goes on, not in a spectacular manner that catches the imagination of the ordinary citizen. Instead, these developments, for the most part, come out of the quiet and isolation of the research laboratory.

Such a place I had the opportunity of visiting only a few days ago—a laboratory conducting experiments that without doubt will completely revolutionize our present ideas and practices regarding the heating, ventilation and conditioning of the air in our homes and offices. We all know about those summer days when our houses are veritable ovens, or those zero days when the furnace must run full blast, parching the air as dry as on the desert, making it stifling hot near the ceiling and leaving the floor cold. Moreover, every housewife can testify that the ordinary, present day heating plant is about one of the best dust circulators that could be devised. In the laboratory which I visited, all these difficulties are being attacked in a practical way, and it seems quite certain that, in the very near future, many homes are going to be equipped with devices that will not only warm the air in the winter but cool it in summer, add moisture when needed, actually remove and wash away more than 95 per cent of the dust, and keep the air actively circulating throughout the house.

Now, you will not read sensational articles in the newspapers about laboratory work of this kind. Such tests are not made a matter of a public holiday. But when the long, painstaking research behind the product is ended, when everything is ready, when the product has reached perfection, then it is advertising that brings us the story.

Take evaporated milk as an example. It perhaps was developed chiefly on the grounds of convenience. The process eliminates a goodly portion of the water, reducing the bulk, making it possible to can the milk and keep it indefinitely in almost any climate. Years ago, evaporated milk was generally regarded as just "canned milk." There was a feeling on the part of many persons that it was a product to use only in emergencies when fresh milk could not be obtained. Careful scientific research, however, has changed our conception of evaporated milk. Instead of being second choice for infant feeding and other purposes, it frequently is the first choice of the physician. I mention this because some of the very interesting facts about evaporated milks are presented in the announcement of Evaporated Milk Association and also the Carnation Milk Company in this issue of HYGEIA.

Cod liver oil is another substance that was carefully and quietly investigated. The general public knew little what was going on behind the scenes while the vitamins were being discovered. Advertising, however, has done a splendid job in educating us to the benefits of cod liver oil in forming sound teeth and strong bones, and building up resistance to certain types of infections. Back of the scenes here, too, is a lot of laboratory work which is necessary in order to guarantee that the cod liver oil you purchase is actually potent in vitamins. Any cod liver oil that you see advertised in HYGEIA carries a definite guarantee regarding its vitamin A and D strength, be it Patch's, Squibb's, Metz Laboratories', or any other.

The strained, mashed or puréed vegetables for infant feeding are a splendid example of quiet, unassuming research. Your grandmother would have been panic-stricken at the idea of feeding carrots to a young infant. But, thanks to the cooperation of child specialists and intelligent leaders in the canning industry, we now know that various kinds of vegetables, properly prepared, are not only safe for infants, but decidedly beneficial. Methods have been developed whereby the carrot, the green bean, tomato, etc., may be reduced to such an exceedingly fine pulp as to be non-irritating, and thereby enable the infant to benefit from its natural vitamins and various mineral salts. Interesting facts about such products will be found in the announcements of Van Camp, Fremont Canning Company, Hygeia Nursing Bottle Company, and Certifoods, Inc.

In great part, the advertisements in HYGEIA tell you about products that have been developed in the ways I have mentioned. Study them and see if I am not right.

Charles S. Mohler

ADVERTISING EDITOR

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Contributors to This Issue

In "Conquering Tuberculosis," DR. F. M. POTTENGER, a specialist in tuberculosis, describes the work done during the fifty years that have elapsed since Koch's discovery of the tubercle bacillus. . . . RUSSELL J. WALDO outlines a successful project in industrial hygiene.

In "Feet and Shoes," a shoemaker "sticks to his last," for J. H. FINN has for many years been associated with the shoe and leather trades. . . . KATHERINE S. BLAKELY, who tells what every mother should know about equipping the nursery, is a registered nurse and has served as public health nurse and as leader of mothers' clubs. . . . GEORGE R. MCCORMACK gives valuable advice concerning cross-country running.

Continuing his serial on "Lincoln and the Doctors," DR. MILTON H. SHUTES describes Lincoln as a psychoneurotic and declares that this phase of his character was "an indissoluble part of his greatness."

DR. ELLIOTT C. CUTLER gives a clear, concise explanation of "What Science Knows about Cancer." This paper was originally presented, Dec. 6, 1931, as one of a series of public health lectures sponsored by the Academy of Medicine of Cleveland and made possible by a contribution to the academy's Health Education Foundation by the S. M. A. Corporation of Cleveland. . . . Through old Aunt Paisley's wisdom, born of "No Special Sperience," LUCRETIA PENNY weaves an amusing story of the child with tantrums.

DR. DOUGLASS W. MONTGOMERY spices with humor the painful task of collecting fees. . . . LT. COL. CALVIN GODDARD, director of the Scientific Crime Detection Laboratory of Chicago, discusses the action of the "truth serum" which makes lying impossible.

DR. CLAUDE LILLINGSTON describes Sir Patrick Manson, who has been called "The Father of the Modern Science of Tropical Medicine." . . . DR. GUSTAVE F. WEINFELD, who specializes in pediatrics, gives some reassuring information on "Heart Murmurs in Children."

The nuisances that cause feuds among neighbors and consternation among health commissioners are outlined in "Sanitation Goes Modern" by DR. W. W. BAUER, director of the Bureau of Health and Public Instruction of the American Medical Association. . . . JOSEPH M. CREAMER gives some sane, simple rules for "Keeping the Creative Mind Up to Par."

"The Ballad of Whooping Cough," written by a well known pediatrician, contains a sly, humorous dig concerning the rights of "your child" and "mine." . . . Snickles and Snortles, the circus twins, make their bow in a new serial written by NELLIE G. HERRIMAN.

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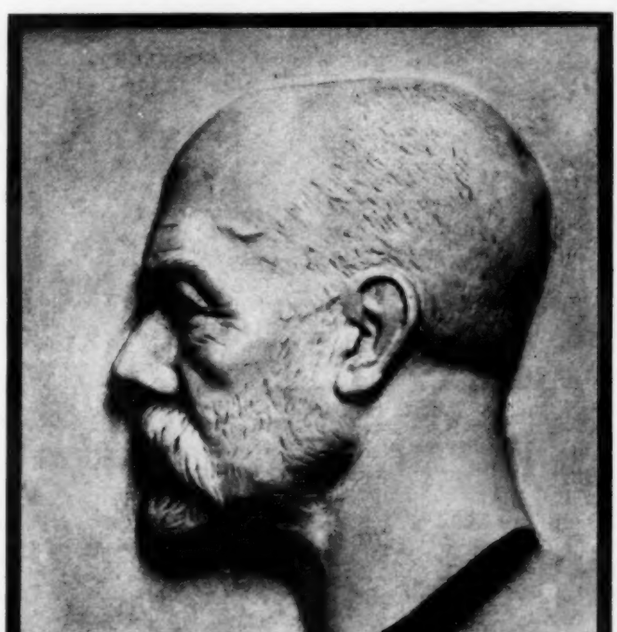
ROBERT KOCH

Discoverer of the Germ of Tuberculosis in 1882

ON MARCH 24, 1882, just fifty years ago, the great investigator, Robert Koch, reported to the Physiologic Society of Berlin his discovery of the germ that causes tuberculosis. The announcement attracted the attention of the whole world. True, Pasteur had already proved the existence of living organisms responsible for disease, but Koch carried that discovery to the practical application that meant the saving of vast numbers of human lives. Furthermore, he developed methods for isolating and studying the germs and finally outlined a series of principles by which one might determine with certainty that a definite organism was the actual cause of a certain disease.



Robert Koch was born in 1843. As a practicing doctor in a small town he began to search with his microscope for the tiny organisms that appear in material taken from diseased bodies and which, by the trained eye of the bacteriologist, are recognized as germs. In 1880, following his appointment to an institute for research in Berlin, Koch developed a method for isolating germs, a simple method for growing germs in pure form, which was fully described in last month's issue of HYGEIA. By this technic it is possible to take out of a mixture of germs one definite organism and to study the conditions under which it lives and grows.

In the significant contribution which Robert Koch made to the Physiologic Society in 1882, he outlined for the first time the principles that are known as Koch's laws or Koch's postulates, four definite conditions that must be fulfilled before it is granted that any germ is certainly related to the causation of a disease. These principles demand first, that the germ shall be found in large quantities in the blood and in the tissues of the sick individual; second, that it shall be possible to select such germs from the blood or the tissues and to grow them outside the body of the animal in a pure form and not mixed with other organisms; third, that this pure form, when injected into other animals, shall produce in these animals the same disease as existed in the body from which the germs were taken, and, finally, that the germs shall be found in considerable numbers in the blood and in the tissues of the second animal after the disease has developed in that animal. The laws are simple, and like all great discoveries their very simplicity establishes their merit.

Had Robert Koch made but the one discovery of the tubercle bacillus—had his only contribution remained the formulation of the Koch laws or principles—his repute would still be a matter for the ages. He did not, however, rest on his laurels but carried on to new and equally great heights. He is credited with the isolation of the bacillus of cholera and with the discovery of organisms associated with several tropical diseases. Many of his contributions to the technic of bacteriologic investigation were so practical that the methods are used unchanged to the present day.

Without the discoveries of Robert Koch it is hardly likely that the sickness and death rates from tuberculosis would have been diminished so greatly. The honor which the world does to his name is but slight recognition of the great contribution that he made for the health and happiness of mankind.

Conquering Tuberculosis

By

F. M. POTTENGER

Chicago Tuberculosis Institute

Tuberculosis is no longer "Captain of the Men of Death."

THE decline in tuberculosis is one of the greatest triumphs of scientific medicine. This decline has taken place in percentage of infections, morbidity and mortality. It represents a higher plane of living for the people and demonstrates the power of knowledge over ignorance.

Throughout all ages tuberculosis has been the greatest destroyer of human life and greatest blighter of human happiness. It has caused more suffering and deaths than all wars and pestilence, for it has marched on every year, every month, every day, taking its toll. It has at last yielded its place at the head of mortality tables and assumed seventh place. So it can no longer be called the "Captain of the Men of Death." The number of persons dying of tuberculosis today is surpassed by those dying of heart disease, pneumonia, cancer, cerebral hemorrhage, renal disease, and accidents.

If we are to inquire what has wrought this change, we cannot attribute it to any one thing, but to many. The control of tuberculosis has scientific, economic and social aspects of prime importance.

One of the first important scientific facts on which modern optimism was based was proof of the transmissibility of the disease. When Klencke in 1843 was able to transmit tuberculosis to an animal by inoculating it with material from a tuberculous lesion in a human being, and Villiman was able to go still farther and transmit the disease not only to an animal but from that animal to another, a few of the foremost thinkers were able to understand that tuberculosis was a transmissible disease. Those experiments sounded the death knell of the theory of heredity which had bound the human race in the shackles of hopelessness throughout all time. If tuberculosis was transmitted, then it was not necessary for one person to have it because the parents had suffered from it.

Heredity as the cause of tuberculosis died hard, for had not every observing person seen families wiped out by it; and according to his point of view was not heredity the only plausible explanation? The final blow to this theory was not long in coming. In 1882, Koch announced the discovery of the tubercle bacillus as the etiologic factor in the disease and showed how it could be transmitted from one person to another. It was still a long time before the theory of heredity was completely displaced by the new theory of infection.

The present century, however, finds the theory of infection thoroughly established and means of prevention and cure based on that fact. But still it has been difficult to allay the layman's fears and to displace the physician's pessimism. Now with the statistics of the first quarter of the present century before us we can displace the doubts of the most unwilling of the unbelievers, for tuberculosis has not only proved itself to be

a preventable and curable disease but one that is being prevented and cured.

The death rate for tuberculosis has declined from 201 per hundred thousand population in 1904 to less than 71 per hundred thousand population in 1930. This means a decline of 64.68 per cent in twenty-six years. Last year the lives were saved of more than 150,000 persons in the United States who would have died of tuberculosis had there been no decline in the death rate since 1904. The decline in this rate saves more than 150,000 citizens annually.

Not only is the mortality decreasing but the incidence of infection is also decreasing as has been learned by administering the tuberculin test to large numbers of children. Twenty years ago statistics of large cities showed that nearly every child was infected and would respond to the tuberculin test by the time it had attained the age of 15 years. Recent reports from Chadwick and Myers show that the percentage has been greatly reduced, the former in Massachusetts to less than 30 per cent, the latter in Minneapolis to about 50 per cent. Heatherington, however, working with the poor in Philadelphia still reports almost complete tuberculization by the age of 15. It is safe to say that the number of infections in the childhood population of the United States has reduced materially during the first quarter of the present century. Children tested in Framingham in 1916 and again in the same manner in 1929 showed 38 per cent fewer reactions at the end of the ten-year period. Smith in New York City reports from 38 to 45 per cent of reactions now as against almost universal infection twenty years ago.

One of the particularly disturbing factors in tuberculosis is the different manner in which it affects the two sexes at different age periods. This fact, too, when properly analyzed, may throw light on certain causes that operate to increase tuberculous disease and mortality. The death rate among females is greater than among males up to the age of 20 or 25; then that for females drops and that for males mounts.

The greater amount of tuberculosis in girls of the teen age is probably due either to the biologic differences of the sexes or to environment, or both. The growing boy is undoubtedly huskier than the girl. He spends more of his time in outdoor sports; he eats more food and probably takes life less seriously. The girl spends most of her time indoors, is frequently a small eater, and so feels the drag of work. Many times she is a small eater from choice in order to remain slender, but often it is due to a lack of appetite, and among the lower strata often to lack of food. Not infrequently have I found young high school girls eating from 1,000 to 1,500 calories and wondering why they felt tired. One would think that they did not know that food and energy were related.

The difference in physical development in girls, their confinement to the house, and their less rugged bodies are doubtless factors that make them more susceptible to the disease.

Undernutrition is one of the common causes of tuberculosis. This was well emphasized during the World War when the death rate among the population of the Central Empires mounted so inordinately. While it mounted generally, the most startling figures at my command are those from Warsaw where the tuberculosis mortality increased from 306 per hundred thousand population before the war to 840 in 1917, and from Belgrade where during the food stringency of 1918 the death rate reached 1,400 per hundred thousand. These rates declined rapidly after the war was over. One cannot say that these excessive rates were due entirely to food short-

Teen age girls are much more susceptible than boys.

age, for there were other contributory factors, particularly those of an emotional nature; but the fact still remains that while mental depression still hovered over the people after the war ended, the mortality from tuberculosis decreased with the increased food supply.

After the age of 25, the mortality picture changes and men become far more susceptible to the disease than women, a susceptibility that continues until old age, when the mortality rates of the sexes approach one another. The most evident fact regarding this high part of the mortality curve is that it comes on with the entrance of man upon his life's work and ends when it is finished. So man's work seems to be the cause of this difference in mortality as compared with that of woman. Another important fact stands out from analyzing the statistics; namely, that the heavier occupations are the ones that carry the highest mortality. The open air life, as found on the farm, is usually attended by a low mortality, while the indoor occupations are higher. Occupations that are of a dusty nature, particularly in which the dust is due to fine particles of hard substance such as quartz, granite and iron filings, are particularly hazardous so far as tuberculosis is concerned. If we take the mortality of the farmer as the unit, the mortality of the brass worker is more than four times as great, the lead worker nearly six times, the stonecutter more than seven, the scissor grinder more than eight, and the tin worker twelve times as great. Statistics of the stoneworkers show that few who work for a period of fifteen or twenty years escape tuberculosis. Coal miners are an exception. They are more free from tuberculosis than workers in general, regardless of the dust that they work in.

It is often stated that the decline in tuberculosis is only a part of the general decline in mortality. So this phase of the question deserves consideration.

That the general mortality is decreasing is evident to all. Since such diseases as typhoid fever, smallpox, yellow fever, cholera, diphtheria, scarlet fever and the diarrheas of infancy have ceased to be the serious illnesses that they were in former times, the total death rate must of necessity have been reduced as a result. These diseases have yielded because the specific method of transmission has been made known or because of better treatment.

As a result of all the measures that lower the death rate, the span of life has been increased from 40 years in 1880 to 55 in 1925, and it is estimated that it will soon be about 65; in fact, that figure has already been attained in New Zealand.

The decrease in mortality or—what amounts to the same thing—the life expectancy of those who live today as compared with those who lived one hundred years ago is as follows: Today one half of those who are born may expect to live to 66 years of age and one fourth to 77 years, while one half of those who were born one hundred years ago could only expect to attain the age of 18 years and one fourth the age of 52 years.

But the mortality of tuberculosis must be compared with deaths from other sources during recent years in order to give the true picture. In 1875 the death rate from causes other than tuberculosis was 28.3 per thousand population; in 1925 it was 11.5 per thousand population, being a decline of 59.4 per cent in fifty years.

Our statistics for tuberculosis are not reliable prior to 1900, but the reduction of the death rate from 201 per hundred thousand in 1904 to 71 in 1930 shows a reduction of 64.68 per cent in twenty-six years, which is 10 per cent more than the mortality from other causes was reduced in fifty years. Taking the figures for the twenty years from 1904 to 1924 the general mortality was lowered 27.9 per cent, while that from tuberculosis was lowered 54.73 per cent. So we can see that the decline in tuberculosis is far greater than that of other diseases.

Even with its decline to seventh place as a cause of death in 1929 and with its falling to nearly one third of its destructiveness as compared with the early years of the century, it is still the most serious illness that affects our people. While heart disease, cerebral hemorrhage and cancer are on the increase, it is chiefly because more and more people are living to the

DON'T SPIT
KEEP THEIR PLAY SAFE
Chicago Tuberculosis Institute
360 North Michigan Boulevard
Your Christmas Seals Pay for Our Work
For a quarter of a century the public has been taught the facts about tuberculosis.

advanced years at which these diseases are common. These diseases, serious as they are, in no way compare with tuberculosis, which attacks men and women during their productive years between 25 and 45; years when homes are being established, families are being reared, and occupations are being established and carried on at highest pressure. This is why tuberculosis is one of the most serious of all diseases. Heart disease and cancer just begin to show themselves at 35, and cerebral hemorrhage rarely before 40. From the age of 40 on, these diseases increase rapidly.

By finding out where and under what circumstances tuberculosis mortality is greatest we are given hints as to how we may prevent it.

More Prevalent in Cities

It is much more prevalent in cities than in the country and in the crowded, thickly populated sections of the city than in the more sparsely populated sections. This may be due to the overcrowding, but it is probably due more to the economic status of the people which is responsible for the overcrowding. The lowest rate in the United States is in some of the Western states, such as Utah where it is 29.6; Wyoming, 31; and Nebraska, 32.5. In New York City it is 92.1; Tennessee, 137.6, and California, 107. The last figure is low when the number of imported cases is considered.

Race and color show considerable difference in mortality, but the factors that underlie the difference are probably due far more to environmental conditions than to hereditary traits.

The economic status has been dwelt on by all students of the tuberculosis problem, for the relation here seems to be unmistakable. Studies carried out here and abroad show that tuberculosis increases as the economic level lowers.

Greater comforts, better homes, better hygiene, better food—in fact, greater intelligence applied to living—are guarantees of greater freedom from tuberculosis.

Because of the general tendency for mortality from all causes to decline and because of the general improvement that has been taking place in the social, industrial and economic status of the people in the last fifty years, it is difficult to assign to each specific measure its exact part in the reduction of the morbidity and mortality from tuberculosis. Some are inclined to belittle the special measures and assign the glorious achievement to the gradual evolution of modern society and to the improved conditions of life. To be sure these have been factors, but, alone, it is doubtful whether they would have succeeded to the extent now achieved.

It seems far more probable that the extraordinary onslaughts that have been made on the disease have been due to the organized effort that has been made by those who have worked to bring about this decline. They have extended their organizations to every state, city and hamlet. Many counties, even though they are sparsely inhabited, have had the help of especially trained workers in tuberculosis. Schools have been teaching the gospel of prevention and cure, and measures have been instituted by which tuberculous pupils may be guided to health. Women's clubs, social and industrial organizations, and service clubs have all been utilized in the campaign.

Never was there a more determined or a better organized effort made to prevent and cure a serious disease. The program has been to educate every one that could be reached, to emphasize the eradication of those factors in the lives of individuals that are known to favor infection and illness, to establish and bring into active practical use those factors that are known to fortify the individual against infection and illness, to increase all phases of knowledge of the disease by research, and to establish the necessary agencies for carrying out the program.

As a result of this program, practically the entire population of the United States has learned the facts about tuberculosis, through leaflets, lectures and the press, not sporadically but more or less continuously over a period of a quarter of a century. Millions of our people belong to organizations the chief aim of which is to prevent tuberculosis, and millions contribute annually to the appeal of the Christmas Seal, which furnishes most of the funds.

The result is that pessimism and hopelessness have been made to give way to a healthful optimism, based on the actual accomplishment of a reduction in mortality of 64.68 per cent during the twenty-six years of organized effort.

Optimism Now Prevails

The agencies through which this has been accomplished have been many. There have been the trained workers: the physicians, health workers and trained secretaries who have given the subject their best thought both in the clinic and in the laboratories of research; the nurses who have been trained to carry into the homes the practical application of prevention and cure; the statisticians who have aided in evaluating the relative importance of various measures; the dispensaries in which the afflicted and exposed are contacted; the sanatoriums in which those clinically ill are given the benefit of known useful measures for cure and in which they are trained how to live so as best to favor healing and prevent relapses; the preventoriums in which those suspected of being especially susceptible to infection may be built up and made more resistant and those already infected but not clinically ill may be healed; and the convalescent colonies or homes, of which there are all too few, in which those who are not yet fit to enter into the full struggle of life may remain, doing some work, until fully fit.

Summer Health Camps for Employees

By

Russell J. Waldo

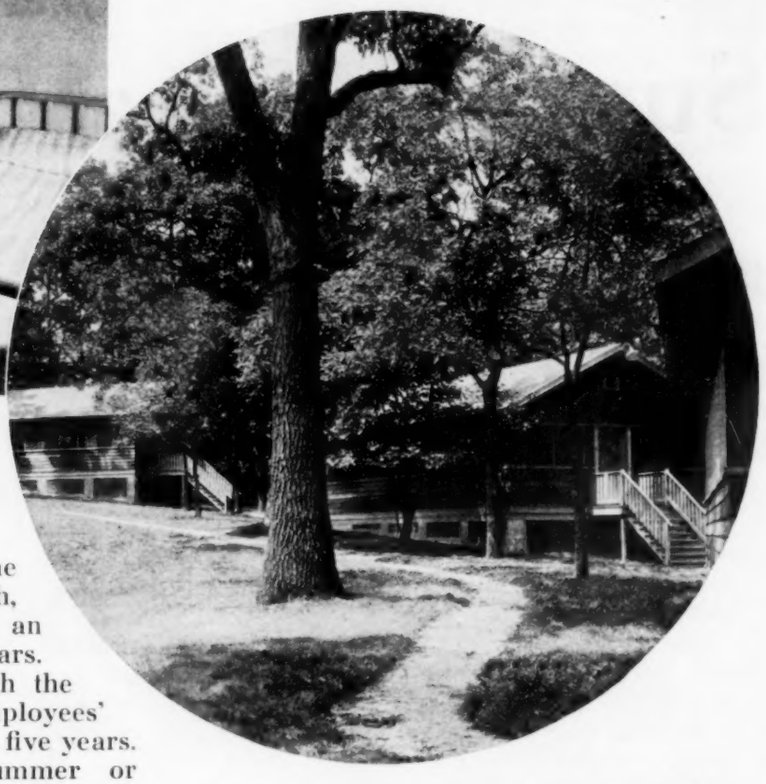
DURING the past year a special study concerning the possibilities of providing employees with camp facilities has shown some unusually interesting signposts which indicate that industrial physicians and those retained by industries are beginning to realize the importance of such ventures as a part of their service to employees.

Nearly 650 physicians, each retained either on full time or on part time by an industry, were questioned. According to the reports of the physicians, 307 companies secure special rates for senior workers in resorts when rest is needed; this number shows an increase of 106 in the last five years. The firms

The sanatorium at Crane Farms resembles a large country home. The estate is spacious.

The picture to the right shows the children's dining room.

Each bedroom has its own color scheme.



Completely equipped vacation cottages are located in a beautiful grove.

which send senior workers to the mountains or other places for health, paying all expenses, number 231, an increase of 121 in the last five years. Eighteen firms rent cottages through the summer months for employees or employees' children, an increase of 18 in the last five years. Twenty-eight concerns conduct summer or health camps, this being an increase of 3 in five years, and 62 are considering such health camps. The latter figure denotes an increase of 57 during the last five years.

Essentials for a Summer Rest Camp

The questions asked to secure the information include:

1. Are you a full time or a part time industrial physician? (Full time, 215; part time, 431.)
2. How many employees? (Minimum, 832; maximum, 19,326.)
3. Do you conduct a company-owned summer camp?
4. Do you plan to operate a summer or health camp for employees?
5. What do you consider essential in planning such a camp?
6. Does your company stand any of the expense in sending senior employees away for needed rest?
7. If not, do you seek reduced rates for them?
8. Does your company ever send employees to mountains or similar places for rest, paying all expenses?

A list of essentials for a summer rest camp is found in the replies. A summary with reasons follows:

To be successful, such a camp should be located in a quiet section, preferably near water, in comparatively heavy woods and with open space for recreational facilities. This location should be convenient to the city or reached by a satisfactory transportation system. In the erection of any set of buildings the maximum number of persons who would be at the camp at one time should be taken into consideration. Facilities should be provided for single men and women and for married employees. Such a camp should be properly supervised and governed by rules made by the company. It has been advised to provide space for tents although in every instance a camp dining room is preferable for furnishing meals at reduced rates or at cost.

A nurse should be on duty at all times, and the company physician should be a regular visitor at the camp at regular periods unless he is called for a special case. Boats and facilities for swimming should be provided. Ample provision should be made for every form of recreation desired by any group of campers.

Crane Farms, a project of the Crane Company, incorporates the essentials of such an undertaking. Although many companies may not need such an elaborate plan, it will serve to show what the industrial physician should take into consideration in his planning. It is none too early for interested physicians to begin their plans if they propose for the year 1932 to operate such a venture, even on a modified scale.

This project was under consideration for several years before it actually materialized, and projects of a similar character were carefully examined and the parts usable were brought together into one vast plan occupying more than 500 acres in the famous lake section of southern Wisconsin.

The first step was to sell the idea to the officers and directors of the company because of its benefits to them. At first they hesitated, doubting the extensive benefits to result to the company through vacations at this elaborately equipped farm for employees. The idea was sold at last and the next step was equally as difficult—that of convincing the workers that the venture was not inaugurated for any paternalistic reason but for the mutual benefit of the company and the employees.

Considerable time was spent in searching for the ideal location where natural surroundings would be found that would fit the scheme. The plot is 75 miles from Chicago on Williams Bay and Lake Geneva. Beautiful groves, open spaces and varying hills in the desired proportion left little landscaping to be done in completing the program. The farm project is composed of three distinct sections of activity, all complete in every detail and of equal importance to its success. The employees' sanatorium, vacation cottages and children's camp constitute the divisions.

Modern Hospital Facilities Are Available

The sanatorium at Crane Farms occupies a spacious estate. The landscaping has been carefully retained, and the whole effect is that of a large country home, fully equipped with the most modern conveniences for the care and comfort of employees who are sent there for convalescence or for rehabilitation from illness or accident. Here facilities of modern hospital practice are available under competent supervision. Correct diet, exercise and general health instructions are emphasized according to the needs of the individual. Employees become patients of the sanatorium only on recommendation of the medical department of the Crane Company in Chicago.

Extreme care has been exercised in the furnishings and decorations of the country home and in fitting it for its special use. Even the decorations and furnishings have been chosen because of their restful effect on the patient. Contrasting colors have been avoided, preference being given to those that harmonize.

The sanatorium hall, main room and sun parlor are arranged on the first floor of the building. The sun room is enclosed in a special glass which transmits the health-giving ultraviolet rays of sunlight. Dr. Harvey, who is chairman of the Crane Farms committee, obtained surprising results from this part of the elaborate program of treatment. Patients confined in shops and offices respond rapidly to this health-giving light that helps to rebuild incapacitated bodies.

The main room has a pool table, player piano, radio and comfortable furnishings to eliminate dull moments and to provide restful music for those building up their nervous systems. Adjoining this room is another sun room facing Lake Como. The dining room is adjacent to the sun room.

Also on the first floor is the kitchen fitted with every modern convenience to reduce labor. Fresh dairy products as well as poultry and vegetables are secured from nearby farms.

On the second floor of this home are the sleeping rooms and bathrooms of the patients and superintendent. Each bedroom has its own color scheme. The third floor is fitted for attendants' quarters.

Dr. Harvey stated that he had only to ask for any new equipment that would be of real benefit to the sanatorium or any other activity, and it was forthcoming. The idea, which at first was hard to sell, has during its life proved one of the best investments of the company.

Within the confines of a beautiful grove on another section of Crane Farms are the vacation cottages. These are completely equipped with running water, shower-baths, electric lights, electric stove for cooking, dishes, refrigerator, cooking utensils and bedding. Five of these cottages have five rooms each and will accommodate four persons. The remaining five cottages have three rooms each. In addition to the three rooms, a day bed is provided in the living room to accommodate an extra person. The cottages have screened porches.

The cottages may be shared by two families, and the nominal rent is then divided. The cottages may be occupied either by girls or by single men. A commissary is maintained at which food supplies can be purchased by vacationists.

These cottages are rented for two-week periods and it is expected that more will be built yearly to care for the increasing demand for them. The suggested program includes hikes, boating, fishing and many other sports.

The Children's Camp Provides Happy Days

One of the most interesting features of the Crane Farms is the children's camp. The company has provided three cabins large enough for twenty-four children. Seventy-two children at one time assure a lively time. Two-week periods, alternating, for boys and for girls from 9 to 13 years, with a fifth period for both, constituted one recent schedule that accommodated 361 children. In the latter instance two cabins were set aside for boys and one for girls.

The cabins are screened throughout. Double-deck beds with good mattresses and plenty of blankets are furnished during camping season. Each child is provided with a locker for personal items. The supervisor's room is in one corner to provide constant supervision.

The children's camp schedule is interesting. It begins at 6 o'clock, the awakening hour. First come setting up exercises, and then a shower bath. After that, beds are made. When these

chores are completed the children gather for flag raising, and at least one verse of a national hymn is sung. By this time they are ready for breakfast and have good appetites. The children take their plates into the kitchen, and their breakfast is served to them there. Each table in the dining room accommodates eighteen children. The hours that follow are filled with programs of supervised play, recreation and various camp activities. Each child is allowed to choose the group in which he wishes to participate.

During the rest period after the mid-day meal, the children read and write letters. The flag is lowered at 6 o'clock and taps are sounded not later than 9 o'clock. Many children are in their beds at 8:30 and asleep by the sounding of taps. Following the repeating of the Lord's prayer in unison everything remains perfectly silent throughout the night.

When the children enter camp, weights and records are taken. This is done again at the end of the camping season. An average gain for the two-week period has been 2¼ pounds per child for the five years. Each child receives swimming lessons at Williams Bay every other day.

The building of the camp headquarters includes the kitchen, dining room and a large playroom. At the front of the building is a large screened porch. This building is especially useful on rainy days when the children remain inside.

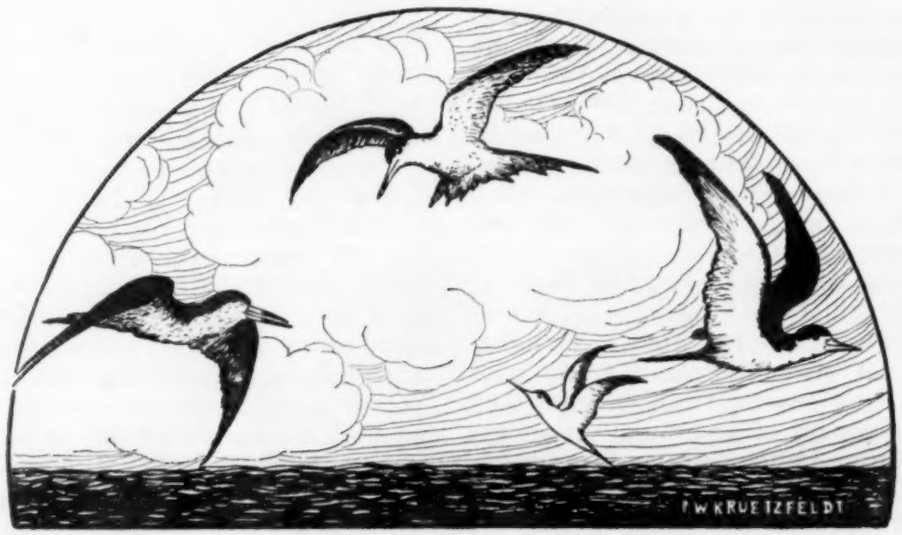
The three cabins are close to the headquarters building. Back of the cabins are the two lavatories and toilet buildings. Nearby is a battery of showers used by the children. Camp busses take the children to their respective churches on Sunday.

The Crane Farms plan, while perhaps more elaborate than the average company needs, is well balanced, and those considering such a plan can choose those aspects which suit their best interests.

One unusual plan to be tried out this year is a farm project for thirty-seven boy scouts and their leader, who will go there for the summer months. They will work two and a half hours in the morning and the same amount of time in the afternoon at truck gardening, weeding and other light activities. The mid-day period will be spent in a nearby wood. When the boys go back to the city this fall they will be paid for their work.

Another plan yet in its experimental stage is an estate with a large country home. The farm is worked to supply vegetables, and employees can spend their vacation period there any time during the year provided the home is not filled to capacity. They pay a nominal cost for this and may have their families with them if they choose. The country home has twenty-one sleeping rooms and more rooms will probably be added. Twelve tents have been purchased.

Vegetables are sold for the use of the farm, and surpluses are sold in the open market. Last year there was a profit from the farm after all expenses were paid. This year boys of suitable age will be employed in working around the vegetables, in addition to the two men employed regularly the year around. It is planned to add cows and poultry in greater numbers during the next two years. It is expected that the plan will prove a great success.

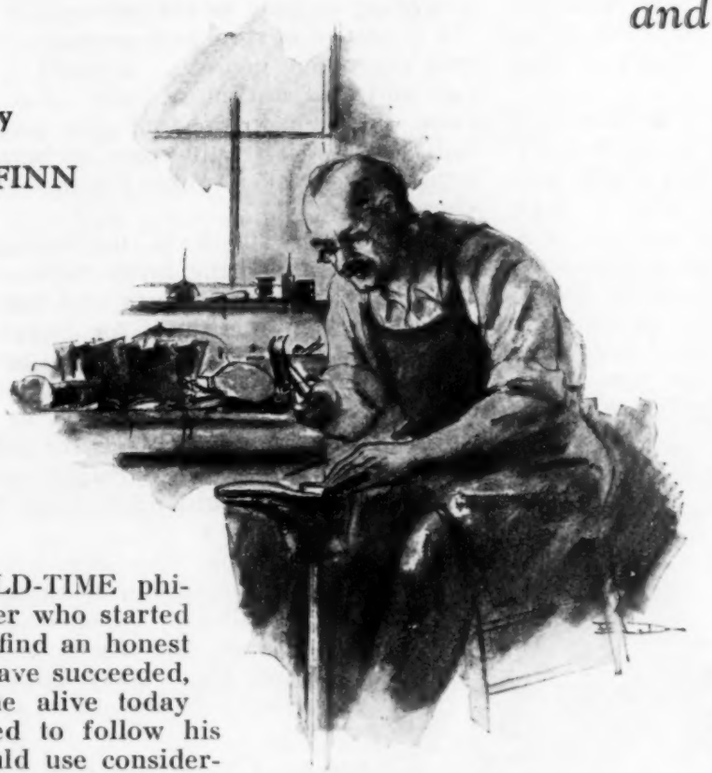


Feet and Shoes

A Conscientious Shoemaker Discusses the American Foot and Its Covering

By

J. H. FINN



THE OLD-TIME philosopher who started out to find an honest man may have succeeded, but were he alive today and disposed to follow his bent he could use considerable spare time trying to find a perfect foot. There may be a few such feet in the country as a whole, but after a long search I have been unable to locate them. A foot may be all right at one time and all wrong at another time. Again, a foot that is perfect now may previously have had a corn or some other imperfection. No foot can be said to be perfect if it has suffered from any form of ailment at some stage of its career; consequently the perfect foot is indeed a rarity.

Almost any criticism that can be made concerning modern shoes will apply to men's as well as to women's. It may be said, however, that the women are the greater sufferers from ill fitting footwear. This is due to the great desire of the women for smaller and neater looking feet and also to the height of the present day heels. Although high heels are doing much harm to feet, they are not responsible for the distortions that prevail today. High heels are not to be recommended, but if one examines the average foot one sees at once that other features of shoes are the cause of nine tenths of the trouble.

It is a trait of human nature to look for quality, once the desire for quantity is satisfied. This will apply to shoes. All shoes are made over wooden lasts, and the shape of the last gives the final shape to the shoe. A singular fact that should be noticed is the changing shape of lasts. Feet do not change, at least in their shape, from one generation to another, but lasts do. The shoe manufacturers of this country change the styles or shapes of lasts approximately every three to six months. This one great factor accounts for nearly all the foot suffering that people endure today. Other factors are subordinate.

When shoes were made in this country in early history and until sixty years ago, the rule was to use a certain last, a wide toe or so-called brogan model. Probably most folk would deny that they ever wore shoes made over brogan lasts, or that their fathers or mothers before them ever wore such shoes, but if they really feel that the old-time shoe is out of date, their

attention may be called to the fact that many shoes are at present going under the name of brogues. These are much in demand, for they are considered fashionable among the persons who set the styles.

The public was not hard to please a hundred years ago, for most folk wanted shoes that would protect their feet and keep them dry and warm in wet or cold weather. It is likely that the average man or woman was glad to get some form of foot covering; style was secondary. And while the idea of utility was the leading one the manufacturers did not have to make a change of lasts two or more times a year. I do not mean to imply that the manufacturers are forced to change the shape of their lasts now, for what is being done along that line is done without consulting the customers who wear the shoes. Those who want a pair of shoes today must take what is offered, especially if they want to be in style.

As long as the broad toe brogan last was used there was little or no trouble with the foot ailments so common now. The only fault with the old-time shoe was its tendency to show stiffness at the back part, just above the heel. The counter was too stiff, in many instances, and the shoe naturally slipped more or less in walking. This caused the chafing so common in the early days. But not all shoes chafed the foot or the heel, and the trouble was never present except when the shoe itself was rather too large for the foot.

A roomy, wide toe last continued in use for many decades, and it was only when people were sure of the supply that they began to look around for something more stylish. This was the beginning of the present day system of change, and it has brought in its wake all the deformities of which we now complain. One new style followed another till there seemed to be no end to them. It is nothing to find large shoe factories today with a hundred different shapes of lasts. Some styles are out of date before three pairs of shoes have been made from them. Shoes are generally made in lots of twenty-four or thirty-six pairs, or less. Each lot is called a case, and at times it even happens that new lasts are not used for more than two or three cases.

No shoe will hurt the foot if it fits.

The one great reason for corns, bunions, ingrowing nails, callosities, deformed toes and all other complaints is lack of room. No shoe will hurt the foot if it fits; to fit, it must provide space for every part of the foot. When a corn or other discomfort is felt by the feet the first thing to do is to examine the fit of the shoe at that point. In ninety-nine instances out of a hundred it will be found that the shoe is pressing on the foot or on the toe where the corn or other painful area appears.

The proof of this is present in every instance. If a shoe is too tight at any particular place it will chafe that part, thus causing what are known as corns. Now, if that shoe is taken off the foot and not worn again for some time, and a shoe large enough is worn, the corn will cease troubling as long as the pressure is absent. If the pressure is removed permanently, the corn will disappear in time. At least it will not be felt and will not cause pain. But if the tight shoe is placed on the foot once more, the corn will become as troublesome as before and will continue to make trouble for the wearer of the shoe.

Shoemakers speak of the outside and the inside of a shoe; the latter indicates the side where the great toe comes and the former the side on which the small toe is located. This should be kept in mind for an intelligent discussion of shoes. The inside line of a shoe does not curve nearly as much as one would think at first glance; in fact, the inside line of the foot is quite straight when placed against a straight edge, from the heel to the great toe.

Most persons who are bothered with corns complain of those appearing on the small toe. Corns are common ailments and are far more numerous than other ailments of the foot. While they are liable to appear on any part of a toe and on any or all toes, they are generally found on the small toe. The reason for this is that there is not wood enough in the last at this point.

Present day lasts taper off to a point at the toe, and the lines of the shoe are made narrow at this part because of this shape of the last. All lasts may be said to be fitters at the back part, or from the ball or tread of the foot back to the heel. Last measurements are more or less standard in the rear part, and the proof of this is seen when lasts

are cut in two parts; that is, when they are remodeled, as they frequently are. Narrow toe lasts can be made over so that they are wide toe lasts and wide toe lasts may be changed so that they are narrow toes. In such instances the lasts are cut in two, and a narrow or a wide forepart will replace the forepart cut away.

This idea of making the forward part of the shoe present a slim appearance comes from the notion that a wide toe last is not as stylish as a narrow toe. This is a mistaken idea, for a plain toe shoe, without tip or box at the toe, is the best looking shoe of all when well made and constructed of the best material in both bottom and upper. Moreover, it is the only safe shoe to wear, whether for men or for women. Those who will accept this view will eventually have healthy feet. If the feet are sound and free from blemish they will remain so just as long as wide and roomy shoes are worn.

Several years ago a certain shoemaker of New York, who was also a medical man, conducted a large establishment in which forty or more hand workmen were employed making shoes from measure or from order for well-to-do customers who had sense enough to look out for their feet. He made shoes for the "four hundred," so called, and for others who belonged to the wealthy class of substantial citizens. His was a shoe business different from any that I have ever known, as he had certain rules which he followed with all customers.

The Shoemaker as Dictator

All his customers were allowed to dictate as to the style of shoe they wanted except in one particular: they could have congress, lace, oxford or button shoes; they could have kid, calf, kangaroo or other uppers, or a combination of leather and cloth upper, but when it came to the last they could have nothing to say. The last used was the so-called French toe last, which is a wide toe last and one that never would cramp a toe or any part of the foot.

As a result of this rule, all his customers had feet that never bothered them and they also had shoes that looked far better in wear than any common factory shoe with a tip, box or other stiffening in the toe. Bankers, lawyers and doctors wore these shoes; if they had foot trouble of any kind such trouble disappeared after they began to wear common-sense shoes.

When narrow toed shoes were first introduced in this country it was the rule to make such shoes over lasts that were much longer than ordinary lasts. It was realized that the toe of the shoe would not be wide enough to allow the toes of the foot to extend unhampered out to the end of the shoe. Accordingly all the extreme toes were much longer—at least two sizes longer than would be the case with broad toe shoes. This made it possible to wear such shoes, but even then there was a great amount of damage done to the toes both of men and of women.

But it was not long before some manufacturers began to cut down on the length of these shoes, and this idea has been growing. There are no extremely narrow toes today but there are many shoes with toes that are quite narrow. And instead of making these shoes long enough to provide room for the toes of the foot, manufacturers are shaping them with little or no regard for the toes, so that the small toe is pressed forward where there is scarcely any room for it and where it is certain to receive pressure that will result in developing a corn or possibly something worse.

Old Shoes, Like Old Friends, Are a Comfort

There is a feature about shoes in general that may be noticed by all observing persons. It relates to the difference between an old and a new shoe. The old shoe is generally comfortable while the new shoe seldom is. The old shoe has become comfortable by reason of the foot having made a place for itself on the inside. It beds down, so to speak, and if one feels inside the old shoe one notices how uneven the insole appears. The foot has done this; hence few will discard the old shoe lightly and without regrets.

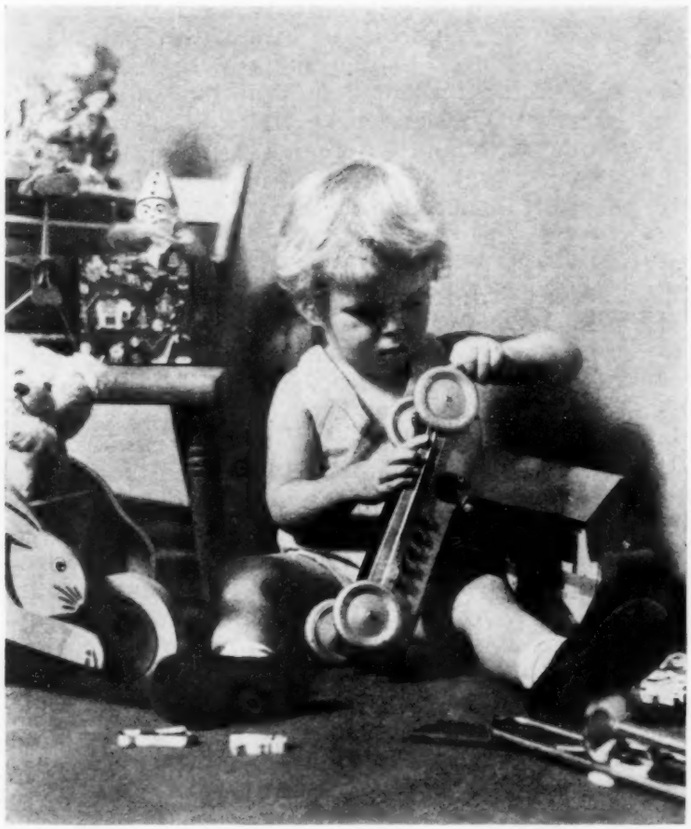
That shoes are not being made today to conform to the foot is evidenced by the great number of chiropodists who are now found in all leading cities and large towns. Their ranks increase each year and the schools that teach the subject are turning out graduates at a greater rate annually. Chiropodists have many men customers but it is safe to say that four fifths of their customers are women. It may be said that the vast majority of women's shoes today are not adapted to the requirements of the human foot, especially in ordinary wear, while at the same time they interfere with the physical well being of the foot, hindering its proper development, so far as health and strength are concerned.

There are many other ailments that come from wrongly constructed shoes. These include bunions, callosities, ingrowing nails, bent and twisted toes, toes that ride over one another, and fallen arches, all of which are causing more suffering to humanity in general than many suppose. The foot carries the whole body and is looked down on with contempt, as though it was not worthy of notice; nevertheless it is crying out in protest and it will not be many years now before it will come into its own and get as much attention in schools and elsewhere as other parts of the body now receive from health authorities.

Equipping the Nursery

By

KATHERINE S. BLAKELY



H. Armstrong Roberts

In a corner of his own kingdom.

THE pediatrician, nutritionist, nurse, psychologist, psychiatrist and nursery school teacher stand ready to help mother with her problems of health, diet, nursing care, behavior, child guidance and everyday living; but there still seems to be an opening for an expert to step in and advise with mother in her purchase of equipment for the young child. Few experts in child training have touched on these points in their writings. Miss Langdon's book "Home Guidance for Young Children" comes nearest to aiding in this problem, and leads us to believe that it may be the nursery school teacher who will help us.

At the present time mothers are stumbling along, learning by their own experience or relying on the selling points made by the furniture dealer. Because at present there seem to be few sources for this information and because I have found that mothers want to know, I endeavor to bring out some points dealing with the importance of the nursery environment.

Richardson and Hearn in "The Pre-School Child and His Posture" say: "Furniture has a marked influence upon posture, which is not infrequently harmful." Hence we should bear in mind in our choice the effect on posture, physical comfort, social needs, safety and esthetic value.

The bed is fully as important as any piece of equipment, because of the large amount of time spent in it. An oblong market basket makes a satisfactory first bed and may be used for about two and one-half months. As soon as it restricts the child in any way it should be discarded. For traveling purposes, such a basket with the curved handle is convenient. A feather pillow should never be used as a mattress, as it is heating and there is a possibility that the baby may turn over and smother. A hair pillow mattress, folded quilt or several thicknesses of table felting are best suited for a mattress. The basket may be firmly attached to a frame with folding legs, so that it will be of more convenient height.

The next bed chosen will be the painted metal crib or the coop form of bassinet, which is easily folded and wheeled about and may also serve as play pen and dressing table. If the crib is chosen, the bars should be close enough together so that there will not be any danger of the child's head being caught. A side that is lowered by foot pressure is a convenience to mother. Vertical coil springs or box springs are preferred. The sagging spring of a second-hand bed may be reenforced by the use of wooden slats woven in and out of the springs. Soon after walking is established, baby should be encouraged to get in and out of bed alone. If the crib is not conducive to self help in this direction, a regular bed must be brought into use. If a bed is acquired, it is well to consider a mattress that sets down, providing sides that will keep baby from rolling out in the night. Mattresses may be of hair, silk floss, felt or cotton, and should be protected by a waterproof mattress cover that may be easily removed for washing.

H. Armstrong Roberts

A serious business—watching her weight.

The next most important consideration is the toilet seat. The first to be used might be a small chamber, 5 or 6 inches in diameter, with flaring edge. As baby becomes strong enough to sit up, the small toilet seat type, with foot rest, which clamps onto the adult seat is recommended. A rubber shield for boys is a convenient addition, thus directing the water into the bowl and preventing handling of the person. The foot rest may be adjusted to secure the best position for bowel movement, the buttocks lower than the knees.

It is well for the child not to become too habituated to any one toilet seat, as it may not be convenient to travel with the accustomed seat. Hence, if the child becomes used to a larger chamber than his first one or even to using a simple board with a hole in it there are advantages to be gained. The movable toilet chairs on the market make more work for mother. Arguments have been suggested in favor of some of these movable chairs because they have trays, thus combining a dining or play chair, but this feature is to be discouraged, for the child should not connect eating with "toileting," and the time for evacuation should not be a play time, as it distracts from the occupation at hand.

Where the child shall eat may well be our next point. The high chair of former days seems to be discarded because it has been found unsteady and unsafe, and is not conducive to self reliance. If the mother with little help feels that the high chair is necessary for a short while, she should choose a chair with a good flare of the legs to assure a firm hold to the floor, a strap attached from the middle of the tray to the chair to prevent the baby from slipping through, and a removable aluminum tray. Miss Zabriskie of the Maternity Center Association, New York, advises the ordinary kitchen chair and table. A chintz cushion stuffed with excelsior should be placed on the seat of the chair, raising the child to the desired height, with similar cushions at his back to secure a good position; a stool, box or books for a footstool should be provided, so that his feet do not dangle unsupported.

A child's chair and table are also good. The table may be a folding one with linoleum and rounded corners, being 10 inches higher than the chair seat. The chair may have a saddle seat and curved back. While the young child spends little time in a chair, a rocker is not as desirable for him as a straight chair.

The pen has proved a great aid to mother. It may be secured with raised floors, thus serving to protect from dust and drafts. As it is usually made to fold up, care should be used that baby does not squeeze his fingers in the joints. A pen may be utilized for an emergency bed also.

When walking days appear, the mother is sometimes tempted by certain types of baby walkers, which should be avoided as they have a tendency to produce bowlegs, retard the child's confidence in walking alone, cause dangerous falls and tempt the mother to keep the baby there for too long periods when he is in need of rest.

Ewing Galloway

The nursery should be equipped for the child's comfort and pleasure.

The swing chair of canvas is a form of walker that is bad for baby, as it does not afford any back support and the child is frequently left for longer periods of time suspended in mid-air than mother realizes.

The toddler may have a play car with pedals, if he is not allowed too constant use of it to the elimination of other things.

Safety gates of varying lengths, costumers and clothes dryers come in for purchase, with little cause for indiscretion in buying.

The baby carriage might be of the English pram design, with reed, rattan or wooden body. Good springs, a windshield, and a hood lined with dark green are favorable points.

In cold and snowy climates a sleigh is almost a necessity. There are few on the market, but at little cost they can be made to order, painted and upholstered. Runners may be obtained to attach to the baby carriage but are not entirely satisfactory.

When the baby is taken motoring, hammocks may be used if firmly secured to avoid swinging. These come in canvas, khaki or black leatherette, with or without a hood. They are adapted to be fastened to the back of the front seat or suspended from the top of the car in the back of a sedan, or to rest partly on the back seat, braced to the floor. The auto chair for the older child may be clamped to the cushion or the back of the seat. Safety straps insure against accidents.

If it is necessary to keep the baby's exact weight, springless scales with weights and a metal basket are desirable. Otherwise, the usual household scales, with a pan placed on top, may be used when ounces are not so important.

A stool or step has an important place in the young child's equipment. It is used for clambering into bed or to aid in toilet needs; the steps may serve for valuable climbing experience, not being high enough to make a fall of importance.

The child should have a place to keep his toys. Bookcases or large boxes with castors, which may be painted or covered with chintz, make good places. The latter arrangement gives pleasure because it is moved around so easily.

If the mother puts herself in the place of the child, ascertaining the effect of her choice on him, she is not so likely to go astray; but she should beware of the person who urges her to buy "because it is easier." When these ideas can be united, very well, but she must not forget that consideration of the child is of the highest importance.

When Son Is Sick

The house is still—there is no sound
Of little running feet,
No hurried banging of the doors,
No laughter on the street.
The window shades are partly drawn;
A hush is in the air,
And puppy lies disconsolate
Beneath the rocking chair.

The coaster wagon and the skates
Stand idle in a row;
The punching bag upon the rack
Awaits a valiant foe;
The little faded overalls
Hang limply on the wall,
Quite clean and neatly mended
From the last disastrous fall.

But Mother's face shines happy
With a soft and holy light
That doesn't come with worrying
And staying up all night;
Her kitchen smells of chicken broth
And crisp bread toasted brown;
The doctor left a while ago—
Son's temperature is down!

—MILDRED JEFFERY.

Cross-Country Running in the High School

By

George R. McCormack

WHEN considered from the standpoint of health, enjoyment and keen competition there is no finer sport for a high school boy than cross-country running, provided, of course, that he is in good health and is properly supervised. Cross-country running besides being one of the best of all sports for general body development is considered necessary by most coaches and trainers as a preliminary conditioner for competition in any of the middle or long distance races. Consequently, the boy who finds that he is unfitted for or not interested in the fall sports such as football or basket-ball, may find cross-country running just to his liking, especially if he is interested in improving his health while getting in first class condition for indoor and outdoor track in the spring season.

Cross-country is usually a fall sport, although it is also participated in during spring, giving the runner a fine opportunity to enjoy the fields, the woods and the air when nature is at its best. A course laid out along a river or canal, and winding across meadows and through a hilly wood, will offer ample compensation in scenic beauty alone to any one who runs it, besides giving him at the same time the best of opportunities to improve his general health.

In the past, most high school boys have participated in cross-country running merely for the purpose of building up their bodies or to condition themselves for some other sport. Recently, however, many high school coaches, realizing the value and popularity of the sport, have placed it on a competitive basis, and hundreds of boys are now benefiting from the training as well as enjoying the sport of competing.

Cross-country, like other distance races, is a strenuous sport, and no boy should attempt to run distance races or to train for them without first being thoroughly examined and advised by a physician who has been fully acquainted with the nature of the sport the boy intends to enter.

Likewise, no boy should attempt to train for cross-country or any distance race except under the supervision of a competent and sympathetic coach, for athletic history contains many instances of promising athletes who came to the end of their careers suddenly, owing to failure to regard the health rules or to accept the advice of those qualified to instruct them.

A Physician's Examination Is Essential

The high school age is the important period in heart growth and development; proper exercise and careful observance of health rules during those years should aid that most important muscle to develop normally and serve as the foundation for prolonged enjoyment of life. The physicians' examinations, however, disclose that many boys at that age have marked irregularities of the heart. Ordinarily these are minor disturbances which if properly taken care of will be naturally corrected in time Boys showing such irregularities should not participate in any form of athletics except with the consent and under the guidance of a physician, for overexertion of the heart means certain failure, so far as a career as an athlete is concerned, and also impaired efficiency throughout life.

Let me add here that the fact that a boy may be able to run the cross-country course faster than some lad who has successfully passed the physician's examination does not at all mean that his heart is in good condition. Only a qualified physician is competent to examine the heart and pass on the fitness of a boy to train for strenuous athletic competition.

The following course of training, which I have found satisfactory for high school boys, is merely suggested. If a boy is 16 years old and wants to try cross-country running he may consider this schedule with his physician and his coach and be guided by their recommendations.

The physician's examination is the first and the most necessary measure preparatory to training for cross-country and once that has been successfully passed, the runner's success must depend on his natural powers to a large extent.

For high school boys the cross-country course should never be longer than 2 miles, and preferably 1½ miles. Also it should offer as much diversity of scenery as possible, in order to relieve the monotony of distance running.

With the doctor's examination successfully passed and the course laid out, only the hard work remains, and if there was ever a sport to test a boy's will-power, stamina and ability to cooperate, that sport most assuredly is cross-country running.

Most boys are familiar with the story of the famous race between the terrapin and the hare; in training for cross-country nothing is more important in the beginning than to emulate the terrapin. Have the boys take things easy for the first few weeks and they will be amply repaid in their freedom from severe muscular pains and accompanying discouragement.

Boys will not find it necessary to do much dieting for cross-country running. They should eat plenty of wholesome food, including a good variety of fresh raw vegetables and fruits, avoid smoking and alcohol in any unprescribed form and above all get plenty of sleep in a well ventilated room.

Sane Training Develops Sound Athletes

For the first two or three weeks confine the training efforts to the taking of long walks, about three times the distance of the course. To walk over the course is advisable to get the lay of the land and to map out a plan for use in running the course later.

When two or three weeks of walking have been completed the boys should be in fairly good condition to commence running. Have them try jogging slowly about half a mile, then walk the same distance and finish by jogging to the gymnasium. Keep this program for about two weeks and then try the following for the same period of time: jog a quarter mile; walk a quarter mile; then jog to the gymnasium.

Gradually stamina increases and breathing becomes easier daily, so that they may now run slowly over the entire course. They will

(Continued on page 372)

P. & A. Photo

Lincoln and the Doctors

By

Milton H. Shutes

The mere presence of William was a comfort to his father.

CHAPTER IV

EXCEPT for frequent lapses into his habitual fits of dejection, precipitated mostly by political setbacks and minor annoyances, Lincoln, during the ensuing fifteen years of discipline and development, did not suffer any other intense shock to his mental equanimity until the death of his favorite son William in 1862.

This depressive phase in his character has always been a source of much interest and speculation to his friends and to students of his life. Jesse W. Weik, who collaborated with William H. Herndon in the writing of Herndon's "Lincoln," has the following to say concerning that phase:

The most marked and prominent feature in Lincoln's organization was his predisposition to melancholy or at least the appearance thereof, as indicated by his facial expression when sitting alone and thus shut off from conversation with other people. It was a characteristic as peculiar as it was pronounced. Almost every man in Illinois I met, including not only Herndon but John T. Stuart, Samuel H. Treat, James C. Conkling, James H. Matheney, David Davis, Leonard Swett and Henry C. Whitney, reminded me of it. No one was able to determine what caused it. Stuart and Swett attributed it to defective digestion; in fact, Stuart told me and Herndon that Lincoln's liver failed to function properly. "It did not secrete bile," he said, "and his bowels were equally inactive. It was this that made him look so sad and depressed. That was my notion, and I remember I talked to him about it and advised him to resort to blue-mass pills, which he did. This was before he went to Washington. When I came on to Congress in 1863, he told me that for a few months after his inauguration as President he continued the pill remedy, but he was finally forced to cease because it was losing its efficacy besides making him more or less irritable."

My inquiry on this subject among Lincoln's close friends convinced me that men who never saw him could scarcely realize this tendency to melancholy, not only as reflected in his facial expression but as it affected his spirits and well being. Robert L. Wilson, who was a member with Lincoln of the Illinois Legislature in 1836, wrote thus to Herndon, Feb. 10, 1866:

"Mr. Lincoln told me that although he appeared to enjoy life rapturously, still he was the victim of terrible melancholy. He sought company and indulged in fun and hilarity without restraint or stint as to time; but when by himself he told me that he was so overcome by mental depression he never dared carry a knife in his pocket, and as long as I was intimately acquainted with him previous to his commencement of the practice of the law, he never carried a pocket-knife."

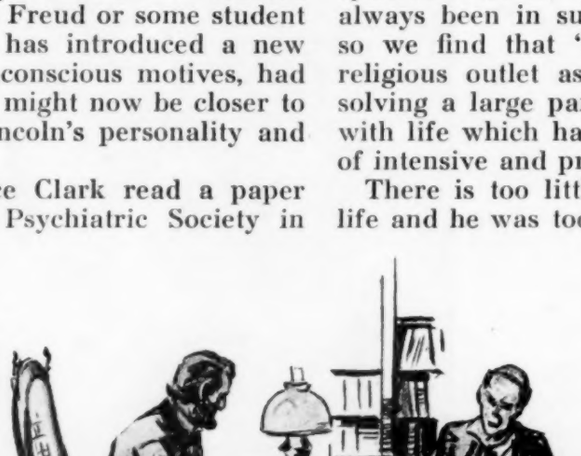
The above is copied from the original manuscript signed by Wilson, delivered to Herndon, and by him

turned over to me. Along with it came this reference to Lincoln's peculiarity, in Herndon's hand:

"As to the cause of this morbid condition, my idea has always been that it was occult and could not be explained by any course of observation and reasoning. It was ingrained and, being ingrained, could not be reduced to rule or the cause assigned. It was necessarily hereditary, but whether it came down from a long line of ancestors and far back or was simply the saddened face of Nancy Hanks cannot well be determined. At any rate, it was part of his nature and could no more be shaken off than he could part with his brains. Simple in carriage or bearing, free from pomp or display, serious, unaffected, Lincoln was a sad looking man whose melancholy dripped from him as he walked."

Lincoln suffered from chronic constipation more or less all his life, which may possibly explain his fondness for apples, but scarcely the trait under discussion. Herndon came nearest to the truth when he termed it occult. If our modern psychoanalysts could have studied Lincoln at first hand; if Freud or some student of his teaching, which has introduced a new world of thought in unconscious motives, had lived in Springfield, we might now be closer to an understanding of Lincoln's personality and its development.

In 1919, Dr. L. Pierce Clark read a paper before the New York Psychiatric Society in which he offered Lincoln's attachment to the mother ideal in the form of his own mother as the origin of the unconscious motives involved in his benign depressive psychosis. He reminds us of the lack of sympathy between father and son; of Lincoln's intense love for his mother and devotion to his stepmother; his shyness and indifference toward other women; and finally, at the age of 25, his love for Ann Rutledge and profound depression following her death; his incomplete mental adjustment to Mary Todd as a bride and after the advent of their children, a "mitigation of the uxoriousness of the marriage tie." He further suggests that some of the love not requited in the marriage state was expressed by Lincoln in the fine affectionate companionship between himself and his third son, William, whose mere presence was an immense comfort to his father.



The final great emotional crisis in Lincoln's life was caused by the death of his favorite son in February, 1862. Lincoln shut himself away from family and friends in a darkened room, and gave evidence of such depth of despair as to terrify Mrs. Lincoln, who sent for help. This time he again turned to religion for solace. What had seemed to be only a form of speech and a fine method of literary expression now changed into a new or reborn faith in the Supreme Being as a personal God. From this time on, though his body and brain grew steadily more tired, his soul went marching on. Frank B. Carpenter, the artist who lived for six months in the White House, referring to Herndon's conception of Lincoln's negative religious faith, said: "After his election, Mr. Herndon knew little of him and absolutely nothing of his mental and spiritual condition before the sickness of his son Willie nor after Willie's death, and I must say that Mr. Lincoln's mind underwent a vast change after that event." Dr. Clark sees a further stilling of the conflict in Lincoln's soul by a possible reconciliation toward his own father as well as toward his spiritual Father, with both of whom he had always been in subconscious antagonism; and so we find that "Lincoln at last accepted a religious outlet as a means of unconsciously solving a large part of his regressive relations with life which had heretofore taken the form of intensive and prolonged depressions."

There is too little known of Lincoln's early life and he was too reticent concerning himself to justify the conclusion that mother fixation was the cause or among the underlying causes of his depressive make-up; but we can more safely agree with Dr. Clark, that the cure dated from the time of his boy's passing and that it was of a definite spiritual religious nature. And we may further infer that the cure was complete and would have continued so, even through the tragic era of the reconstructive period, had he outlived it.

Lincoln's athletic-asthenic physique, suggestive of a schizoid personality, his keen sense of humor, his constant bubbling over with jokes and stories in such marked contrast to his frequent lapses into mental depression, his melancholic aspect when alone and in thought, the several spells in which his spirits sank to a lower ebb than usual, and the severe depressive reaction to his love plight with Mary Todd form the material out of which have been molded the various impressionistic images in psychopathology of this remarkable man. None can be omitted in analysis.

The psychiatric study of Lincoln's character and career will always be interesting and worthy of careful study by unprejudiced men whose minds are well trained in psychoanalysis. The

hope of the variant, the balance wheel or stabilizer for any seeming mental deviation from the normal is common sense. So, no matter how interesting any psychoanalytic deductions regarding Lincoln may be, there is that well known and supereminent characteristic of his which no psychiatrist can ignore or clever detractor take away. If Lincoln's periods of depression seem to a student of his life to approach or even to invade the border of the pathologic, that student can be reassured that Lincoln's common sense alone, all physiologic, psychologic or inherited considerations aside, would and did lift him up whenever the emergency arose.

After all, a large share of the world's work, and much of its best work, has been done by psychoneurotics. Lincoln was a psychoneurotic, and that phase of his character went into the mosaic of his intensely interesting personality and was an indissoluble part of his greatness.

CHAPTER V

THE LAST current of thought suggests another more recent development in medical research—that of endocrinology, or the study of the ductless glands and their unbalance and dysfunction. Some discussion of the subject seems necessary if for no other reason than that one hears, nowadays, public speakers thoughtlessly refer to disturbances in Lincoln's thyroid gland.

Herndon's description of Lincoln is of the greatest value, not only because he was Lincoln's actual partner, day in and day out for sixteen years, but because, as Jesse Weik states, its value to history arises from the fact that it was prepared for delivery to audiences in central Illinois composed largely of Lincoln's neighbors, people the most competent of all to test its accuracy and truthfulness; it follows in somewhat condensed form:

> Mr. Lincoln was wiry, sinewy and raw-boned—thin through the breast to the back and narrow across the shoulders. Standing, he leaned forward; was somewhat stoop-shouldered, inclining to the consumptive in build. His usual weight was about 180 pounds (height 6 feet, 4 inches). His organization worked slowly. His blood had to run a long distance from his heart to the extremities of his frame, and his nerve force had to travel through dry ground, a wide circuit, before his muscles were obedient to his will. His structure was loose and leathery, his body shrunk and shriveled; he had dark skin and dark hair, and looked woe-struck. The whole man, body and mind, worked against more or less friction and creaked as if it needed oiling.
>
> His circulation was slow and sluggish.
>
> His forehead was narrow but high; his hair dark, coarse and rebellious. His cheek bones were high, sharp and prominent; his jaws long; his nose was large and a little awry toward the right eye; thin, sharp and upturned; his face was sallow, shrunken and wrinkled, and his cheeks were leathery. His ears were large and ran out almost at right angles from his head. His head was long and tall from the base of his brain and from the eyebrows; the dimensions from ear to ear were 6½ inches and from the front to the back of the brain, 8 inches. The look of sadness was more or less accentuated by a peculiarity of one eye, the pupil of which had a tendency to turn or roll slightly toward the upper lid, whereas the other one maintained its normal position equidistant between the upper and the lower lids.

> His legs and arms were very long and in undue proportion to the rest of his body. Sitting in a chair, he was not taller than ordinary men; it was only when he stood up that he loomed above them. He walked like an Indian, with even tread, the inner sides of his feet being parallel, betokening caution. He put the whole foot flat down on the ground, not landing on the heel; he likewise lifted it all at once, not rising from the toes; hence there was no spring to his step as he moved up and down the street.
>
> Thus stood, walked and looked this unusual man.

But there is nothing in this or in any other description to suggest thyroid dysfunction; nor is there aught to suggest disturbance in any other endocrine gland unless it was some overactivity of the anterior lobe of the pituitary gland, beginning after puberty. This may have been a factor in producing Lincoln's unsymmetrical stature—his long legs and arms "in undue proportion to the rest of his body." But because of insufficient data, of a lack of certain indispensable exact observations, this field of study as applied to Lincoln must ever be a most highly speculative consideration; to wander even further afield in an attempt thus to explain his disposition to mental depression would be merely an interesting venture in the realm of fancy. Furthermore, the subject of endocrinology itself is still too shrouded in darkness to make it worthy of consideration in relation to a serious study of Abraham Lincoln.

What Science Knows about Cancer

By

ELLIOTT C. CUTLER

BECAUSE of the great difficulties in curing tumors and the obvious failure by medical means in many cases, a great deal of quackery, and even magic, has arisen in relation to this particular disease.

Immense sums have been spent on investigation of the cause of tumors, with the result that, although much remains to be learned, it is now known that injury, inheritance, and certain laws of cell growth are instrumental in their production and that infection does not play a part.

A tumor is the result of a single cell starting to grow and never stopping this growth. Moreover, the tissues of a tumor do not perform any function and merely utilize a great part of the body for their growth, which continues until death of the body or the removal of the growing cells stops further production. Tumors occur in plants and animals as well as in human beings, and it may be that the final knowledge which will allow us to combat properly the growing tumor will come from some one quite outside of the field of medicine.

Certain parts of the body have to do with growth and we know that when children grow very large or when they are stunted, certain parts of the body do not function well. It is not known as yet, however, why growth in height and size cease, normally, at about 16 or 18 years of age. When this knowledge is obtained, the principles of checking body growth can be applied to the cells of a tumor and its growth stopped without the use of the knife or of radiation, either radium or x-ray.

There are many kinds of tumors. The benign or simple tumor, such as the fibroid tumor of the womb, though it may increase to the size of a football and cause great distress, grows only locally in a single spot and never spreads throughout the body. Such a benign tumor may cause excessive bleeding at or between the menstrual periods or, by pressure on the bladder and nearby structures, result in much suffering. Once completely removed, benign tumors will not recur; but if not removed, they may press on important structures.

Other tumors are called malignant tumors, and the cancers which the public fear so much are largely in this group. Cancer is a term restricted to the malignant tumors of tissues that cover other tissues; for example, malignant tumors of the skin, of the lining of the mouth, or of the whole intestinal tract. Also, structures derived from lining or covering tissues, such as the liver, which grows out from the intestine, are called cancers. The word cancer is derived from the Latin word for crab, which indicates that its use was suggested either from the difficulty of dislocating a crab from its nest or because of its many legs radiating away from its body like the secondary growing portions of a malignant tumor. Tumors in the malignant group not only grow locally, destroying the local tissues, but send out fine growths into the little lymphatic spaces in the body which eventually reach to other organs. In the case of certain tumors, cells break off into the blood vessels of the tumor and are carried elsewhere in the body. Just as grass seed may be blown by the wind and settle in some distant spot, so these cells that break off and go elsewhere in the blood vessels make new growths of the same kind of tumor at the places where they are halted. There are, unfortunately, tumors of other structures besides the covering and lining membranes which are even more rapid in their growth than cancers. Such tumors, which are called sarcomas, are more

common in young people and arise in relation to bones or other parts of the body.

As a whole, tumor is a disease of middle and late life, but tumors may arise early in life and if they do, because of the greater capacity of the youthful body to grow, are liable to be more serious. Tumors are more frequent in females than in males, largely because a considerable proportion of tumors arise in relation to the breasts or the generative organs, particularly the uterus, of the female. This common source of tumors would seem quite natural since the tissues of the generative organs have a greater capacity for growth than the other tissues.

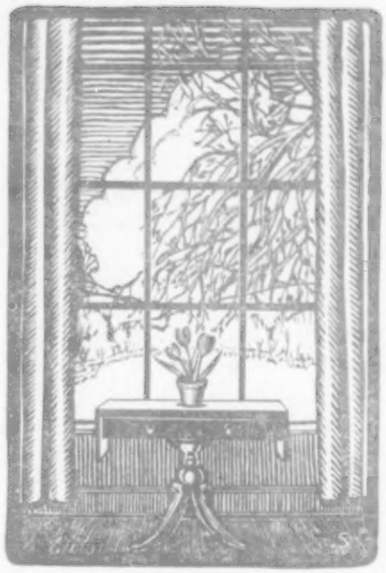
Tumors seem to be on the increase. Thus, more people seem to die nowadays of tumor than formerly, but this is questionable, since the statistics of death reports are now more accurate and more people live to an older age, the age in which tumors are more likely to occur. In the last yearly report of the Metropolitan Life Insurance Company, tumor was responsible for nearly 14 per cent more deaths than it caused twenty years ago, which may represent a greater increase than the increased longevity today. Over the age of 45, only heart disease demands a greater toll.

The Disease Is Not Contagious

Cancer is not contagious, it is not caused by bacteria or other infectious agents, and it is in no sense a germ disease such as pneumonia or tuberculosis. In all the thousands of recorded operations for cancer there is no report of a doctor, a nurse or any other person who has been in close contact with those afflicted with cancer ever having acquired cancer from these patients. Physicians have even carried out experiments by inoculating themselves with cancer, but no tumor resulted. This knowledge is important, for some unfortunate persons who have had cancer have been neglected because of the fact that they were thought to be dangerous to the rest of the family.

Although there is insufficient evidence to warrant the statement that tumors in the parents increase the liability to tumors in the children, it may be said that when there have been many tumors in several generations in a single family the descendants may be more liable to tumor growth. Certain strains of mice have tumors and these have been bred and studied for many generations. From this type of experimental work it has been shown that at least in mice one can increase the liability in the descendants according to the number of tumors in the preceding generations. One cannot, however, translate animal experiments directly to man, and again in this case there would only be the liability to tumor and not direct inheritance of a special tumor.

It is a common thought among laymen that tumors follow injury, but it may be stated emphatically that a single injury has nothing to do with the cause of tumor. However, repeated injury at the same spot over a long period of time does play a definite part in the production of tumor. X-rays produce an irritation if repeated exposures occur over a long period of time, and the early workers with the x-ray



apparatus, not knowing this, failed to protect themselves as the workers do today and therefore produced on their hands, and sometimes elsewhere on the body, repeated slight injury. In time the tissues thus injured began to grow and unfortunately continued to grow, acting as a real tumor acts, failing to stop growth, as if the cells for some reason or other had gotten beyond the forces which direct body growth and could not stop growing.

Instances of the production of tumor by chronic irritation are seen elsewhere. In certain parts of India where bullocks draw carts by a rope placed around their horns, repeated injury occurs at the point where the rope rubs at the base of the horns, and after years of such injury, skin cancer sometimes develops. Further, it is known that certain dyes produce mild injury, and that cancer of the bladder develops in persons who work in the dye industries, the dye apparently producing a chronic irritation in the bladder as it passes through this organ during excretion. In the Kashmir Valley in India the shepherds, by carrying little braziers of coals under their clothes against their chests in the winter time, receive repeated burns, and cancer of the skin sometimes develops at the point thus repeatedly injured. Still further, people in the East chew the betel-nut a great deal, and the irritation produced by this sometimes causes cancer in the mouth. Experimentally, cancers have been produced in animals by the repeated injection of an irritant or by painting an irritant, such as tar, repeatedly on the skin. It would seem from all this that chronic irritation must play some part in the production of cancer. By chronic irritation, however, one need not assume injury by force. It might be that the juices which digest food would be the source of the irritation, or it might be chronic irritation due to bacteria or parasites, or perhaps to the exposure of tissues, accustomed to a certain environment, to chemical

irritants produced elsewhere in the body than in the tissues themselves.

That the form of irritation is something different from simple physical injury is seen in the statistics regarding cancer of the breast. Thus, this disease seems to be more common in the breasts of unmarried women, or rather in breasts which have never been suckled. A study of the vital statistics of the state of Pennsylvania for 1927 shows that in women over 35 there were 109 deaths per hundred thousand due to cancer of the breast in unmarried women as opposed to 44 deaths per hundred thousand in married women. It is the breast not submitted to the changes which accompany pregnancy, rather than marriage, that is important. A married person who has never been pregnant, is, then, in the same group as regards cancer susceptibility as the unmarried person. In this example it might be thought that if irritation played a rôle this irritation was something not dealing with the normal function of the breast, but an influence produced in the breast by the very fact that the breast's normal function of producing milk had not been utilized.

But even beyond this irritation there must lie another cause. It may be the increased tendency due to inheritance. It may be the deviation of some normal law of growth within the body of which science today knows nothing. Experimentally one can produce tumors more easily by the conjunction of at least two factors. Thus, Carrel in the Rockefeller Institute can produce tumors in the breasts of pigeons by the injection of some material which would injure, such as a dye, and the injection of juices obtained from a rapidly growing embryo. The injection of the dye alone or of the embryonic tissue juices alone will not produce tumors. It would seem that the injury may well be the stimulus to immediate growth, since repair occurs following any injury, but that some other influence must be present to continue the growth process after repair to the normal condition has been completed.

Fortunately most tumors grow slowly and fortunately all tumors probably start with a single cell. Therefore, all tumors are at their earliest period small and quite local. At this stage of their growth probably all tumors could be removed and the patient entirely cured by such removal. This means surgery, and surgery in the earliest forms of tumor is certainly the safest remedy. When a tumor has reached the size where the knife cannot remove it without destroying important structures necessary for life, then one must resort to some other form of treatment. The rays which come from radium and from the x-ray machine will stop cells from growing and, what is more important, will hinder the growth of tumor cells more than the growth of the normal cells of the body—hence the great modern trend to treat tumors by radiation. But it is most difficult to calculate the exact dosage of radiation necessary in the treatment of any given tumor, and it is certainly not so safe to use radium as the knife, provided the tumor is small and accessible. Moreover, radiation may of itself cause burns and chronic irritation so that this form of therapy must be used only by those who are experts in this field and who have a complete understanding of the difficulties involved.

I want above all else to point out that tumors in their early stages are curable. There are thousands of people who have had tumors which, if allowed to attain greater growths, could not have been cured. Of course the lesson is simple: it is that people with lumps, ulcers, signs of irritation, or complaints which might lead them to suspect something wrong should go at the earliest possible moment to their family doctor, who probably knows them a great deal better than any specialist would and who may well save them the expense of a trip to a specialist, for there are a great number of little skin lesions, such as warts, which are not true tumors. People should go to their physicians about once a year to have a check-up on their general condition. Certain of the black moles, rough spots in the skins of old people, particularly the exposed areas of the face and hands, chronic ulcers or cracks in the skin, whether at the corners of the mouth or elsewhere—provided they remain there for a long time—ulcers within the stomach, lacerations of the cervix due to childbirth which do not heal but remain as a constant source of irritation, changes within the breasts of women and within the prostates of men occurring between the ages of 40 and 60, and similar small lesions, though in themselves benign at one time, may indeed be the focus in which cancer or another form of malignant tumor may eventually occur. The one point that must be emphasized is that in their early forms cancer and other malignant tumors are almost 100 per cent curable. One does not hear of the cured patients because such persons go about their business and do not speak of the little mole or lump which their family doctor has removed for them. One hears only of the terrible disasters and the protracted

suffering in cases in which the lesions have progressed to the point, before a physician saw the case, that made it impossible for any treatment to be of use.

The very fact that doctors can cure the small lesions is the reason for the success of the various forms of quackery which also can cure such early tumors. One should always be sure of the nature of the disease treated and this can be done only by submitting the tissue removed to examination under the microscope. If all the so-called cancers the quack cured were submitted to a microscope for proof that they were cancers, he would soon lose this means of support.

In the United States, somewhat over 100,000 persons die annually of cancer. Probably more than 50 per cent of these cancers are preventable by removal when the first changes are noticed. This is the chief message which the profession of medicine must get to the public. The public must know that tumors in their early forms are curable. When people appreciate this they will go to physicians at a time when the disaster can be prevented. Further than this, the public must know that there is no phase of disease affecting man which is under more careful or more thorough investigation than the field of tumors. Every young student who graduates from a medical school is thoroughly imbued with the fact that he may be the individual who can bring to humanity its greatest alleviation of suffering by the discovery of the cause of tumors.

When science knows how to cure cancer it will be broadcast throughout the world without cost to any one. Secret cures can never be what they promise, for there is no one scientifically trained or susceptible to the ordinary demands of the human conscience who would withhold for his private means such an important matter as the discovery of the cure of this disease. The very fact that a remedy is private is sufficient reason to condemn the person practicing its use. The conservatism of the profession of medicine is well known. It has served faithfully and honestly for a long period of time. It will give to the public all the knowledge compatible with safety whenever it is discovered. When the public is educated to this point of view the ravages of cancer will be diminished and a spirit of hopefulness more in conformity with our knowledge of the disease will supplant the present dread and fear so commonly expressed.

Lines from an Insomniac to Her Physician

By

Stella F. Andress

Explain this, O Sage:
Is it due to my age
That I sleep when I shouldn't?

That I try to be wakeful,
Alert, keen and playful,
But sleep when I shouldn't?

That my night's sleep is o'er
At the wee hour of four;
Then sleep when I shouldn't?

In the evening at nine,
In society's prime
I sleep when I shouldn't.

Cards played for a stake
Can't keep me awake;
I just sleep when I shouldn't.

Talk lulls me to sleep;
Talk and laughter deep
Make me sleep when I shouldn't.

When visiting friends
My visit soon ends,
For I sleep when I shouldn't.

I confuse night and day,
Sleep when I should play,
For I sleep when I shouldn't.

All this makes me shy,
And I'm asking you, "Why?"
I sleep when I shouldn't.

No Special Sperience

By

LUCRETIA PENNY

Tantrums were Billy's chief trouble.

AUNT PAISLEY was "rubbin' de clo'es out of bile," and I was resting under the sycamore where she worked. The week had been a trying one for our entire community and there was something soothing about Aunt Paisley's low-voiced conversation.

"Course now, I neber to say had no special sperience atall," she was telling me, her black face puckered thoughtfully. "I neber had no sperience 'cept wif my own 'leben—whut was nine of 'em boys—and wif my mammy's two sets, and whut wif bein' grandmammy to a right smart showin', and whut wif he'pin' de white folks some wif deirs. Dat's all de sperience I'se had and I reck'n it was mostly right smart lopsided 'count of me havin' nothin' much but boys. Still, it do seem like—"

She sighed and left her comment unfinished.

"It seems like what?" I prompted lazily.

"It seem like dat ef I set my mind on it, and ef I didn't have nothin' else to do no more dan Miss 'Laine have, I reck'n maybe I could make out to get dat one chile raised 'thout buyin' me no book to tell me whut to do next."

"Well," I told her, "Billy is poor Elaine's first one."

"Yessum. So was Mordecai Absalom my fust one, but I made out. Whut'd I done ef I'd had to have me a book—and me not been learnt to read? Didn't I make out to raise me 'leben and didn't dey turn out pretty good from Mordy down fru Sam? Dey neber had no fancy raisin' 'cause I neber had no time to give 'em dat. But dey was raised good and solid. It eben got so tworge de last dat I neber had no time to name 'em fancy, but I got 'em named somehow and raised. I neber had no time to more'n set 'em a good sample, and try to edge 'em into bein' 'pendable and lookin' down on de lazy, and 'memberin' a few manners. I ust to say' yessum' and 'no suh' and 'pleasum' and 'thanky suh' to 'em from de start. Den I bought Mordy a hat

"Didn't I make out to raise me 'leben and didn't dey turn out pretty good?"

"All de worry eber I took wif such as dat was gettin' 'nough grub to fill 'em up."

and learnt him when to take it off, and he learnt de rest of de boys wif dat same hat. It was gettin' kinder weakly in de brim 'fore Sam got done wif it, but still seem like Sam's manners is good as any of 'em. Look like de ones dat Mordy learnt dat to got it a right smart quicker dan Mordy had. I'se noticed dat 'bout chillun. Dey learns one 'nother easier dan dey mammy can learn 'em. Still, I could learnt mine more ef my time had helt out, but I don't know dat it matters. My chillun does very well."

"Every one seems to think so, Aunt Paisley," I admitted, "but you musn't expect Elaine to have learned as much in the three years since Billy was born as you've learned in a lifetime."

"I don't aim to be settin' myse'f up to be nothin' extry," Aunt Paisley apologized. "Whut all did dat book Miss 'Laine had go on to say?"

"I didn't read it. Elaine bought it after she got here because she was so worried over Billy's temper tantrums and about his not eating as he should."

Aunt Paisley's brow became a narrow wrinkled band between her white hair and her sharp, dark eyes. "Well, you seen her feedin' him! He had her bowin' and scrapin' and fussin' and frettin' and beggin' and promisin' and goin' on three times a day. Course he neber aimed to give in long as she could hold out to think up more tricks to try. And her feedin' him wif a spoon same as he'd not been bornded more'n a week at de most! Time any of mine was big as dat Billy he was feedin' hisse'f and learnin' de two next littlest to feed deyse'fs. All de worry eber I took wif such as dat was gettin' 'nough grub to fill 'em up. When I had it got I cooked it up de decentest way I could and set it on de table and called 'em to it. Ef one of 'em neber come he could wait till de next meal was got. By dat time Old Honger had learnt him more dan de whole day of my frettin' and fussin' would done. One or two times one of mine's come looked at de grub and commence to whine dat he didn't want so and so, dat he'd ruther have such and such. Well, times like dat I was always deef. Like I say, dey was 'leben of mine, and 'cept for one dey's all livin' now; and dey ain't nothin' whut's been cooked right but whut'll lay on dey stummicks. Eber hear dat Billy name off whut-all he can't eat? Did dey tell you 'bout de spell he had ober to his grandmammy's?"

"Oh, yes, I know. He had an average of one tantrum a day. If his mother had kept him in the neighborhood another week all of us would have been worn out. Tantrums were Billy's chief trouble."

"Tantrums!" Aunt Paisley mocked. "Tantrums! Dem ain't nothin' but old-timey mad fits. I cotch on de day dey come dat Billy had dem fits down pat."

"Why, I thought Billy behaved like an angel that first day," I protested. "We all did. We were hoping Elaine would stay all summer."

"Yessum. It kinder looked like he was startin' out pretty good, but I cotch on who was boss 'fore he'd more'n got off de train. He was after his mammy's watch and he made like he was right ready to have him one of dem fits ef she didn't hurry and turn it ober to him. She hurried all right. Dat was a bad mistake—visitin' or no visitin'. She ought to let him throwed his fit and den not paid him no mind atall. Dey ain't goin' to put deyse'fs out much to act fittified lessen somebody's payin' 'em some mind."

"And her feedin' him wif a spoon!"

"But he holds his breath so, Aunt Paisley," I reminded her.

Aunt Paisley sniffed. "How many little boys has you been to de funerals of whut died from holdin' dey bref too long in a mad fit?"

"Well, it was the first time Elaine had been home since she married and I suppose she felt that she was for anything that would keep peace while she was visiting. Then she naturally didn't want Billy to make too unholy an impression on the neighborhood, so she tried to keep him in a good humor."

"Givin' up to 'em neber kept no peace and good humor for me," Aunt Paisley muttered. "Course, like I say, I ain't neber had no special sperience atall, but still—"

"But you think she should have gone off and let him howl it out the day he was screaming to get into the pen with the gobbler?"

Aunt Paisley smiled the smile which she reserved for reminiscence. "I 'member one time one of yo' Aunt Roweeny's boys kept cryin' to pull up a prickly pear. Dey give him dis and dat to play wif but dey couldn't get his mind off dat prickly pear, wouldn't nothin' do him but it was whut he needed. Finally dey let him have it. De next time dey 'vised him 'bout somethin' he look like he sorter thought dey might be right. Dey's some things dey cries for dat can learn 'em aplenty. Now dat gobbler might 'a' been a pretty good lesson to Billy. To de longest day he lasted Billy would 'membered not to keep company wif fighty gobblers."

"You're inhuman," I reproached her, "perfectly inhuman."

My washerwoman chuckled. "I reck'n I'd stayed 'round close 'nough to got him out in time to save his skin, but I tell you whut—I'd ruther see one sorter scratched up some dan to have one dat was raised so sloppy dat folks would be wishin' all de time he was 'round 'em dat de gobblers had et him 'fore he got to dey house. Ebery place dat chile's been he's left a track of tore-ups and broke-ups 'hind hisse'f. I don't see nothin' not human 'bout tryin' to learn 'em to get 'long 'thout makin' no more uncalled-for trouble dan dey has to, and 'thout runnin' into no more trouble dan dey has to. Whut's not human 'bout dat?"

"Maybe not," I agreed, "but you see Elaine thought that there was a lot of nervous strain to all the visiting Billy was having to do, and so—"

Aunt Paisley nodded agreeably as she bent over her suds. "Dat's maybe so, too. I neber b'lieved in draggin' 'em 'round no more dan had to be. Still, dey ain't no strain I eber run into dat works on a chile's dispositions worser dan his not knowin' dat de world is kinder run by rules. He got to learn dat such and such has got to follow so and so, same as i'onin' follows washin', and dustin' follows sweepin', and hoein' follows plantin'. A chile's got to learn dat de world's got a kinder tune to it and ef he don't want to waste a lot of time fightin' 'gainst it he better learn dat tune. Let a chile one time get de notion dat don't nothin' matter but his own wants, and de way things is goin' to turn out will be a heap more upsettin'er dan all de chills and fevers and broke bones and ringworms he'll likely eber hab. He got to sort of ketch on gradjal—he ought to done cotch on pretty good time he's big as Billy—dat he got to fit hisse'f in wif whut de rest of folks wants, dat he sorter got to put up wif a right smart."

"Adjust to his environment?" I suggested.

"Don't know nothin' 'bout dat," Aunt Paisley replied. "Still, like I say, Billy ain't to blame for whut ain't been learnt him. It was his grandpappy put dat gobbler-pen notion in de chile's head. Billy's grandpappy's old 'nough to know better dan dat. He commence to tell Billy soon as he come, 'You musn't neber go near de gobbler, son.' Dat's not no good notion wif a chile. Lots of folks when dey's goin' off will tell dey chillun to don't do dis and don't do dat and don't put de cat in de well and don't drive nails in de churn and don't swing on de window curtains and all like dat. Mostly I'se noticed dat when folks like dat gets home it's all been tended to. I neber done much of dat and I neber had no churn nailed down nor drunk water off of no cat in my life. 'Stead of tellin' 'em whut to don't do I ust to tell 'em so much dat dey could do dat it kept 'em busy."

"It's said to be the better method," I offered.

Aunt Paisley smiled her reminiscent smile again. "I 'member one time Mister Doctor George went some place to see a baby whut had

swallowed a screw. When he come home he was tellin' it 'fore his Aunt Julie whut was visitin' 'em. Miss Julie was a kinder flustery old maid and she always had to make a big to-do ober eberythin'. Well, Mister Doctor George's Andy was 'bout de size Billy is now, and Miss Julie calls him in and tells him dis big tale 'bout de baby whut swallowed de screw. She gets a screw and shows him and she tells him how dey was all so scared and how somebody went gallopin' after de doctor and how de baby's mammy took on, and how de grandmammy cried and how de pappy run and bought bananas to feed de baby. I don't know whut-all Miss Julie didn't tell him. And den she says to him dat whuteber he do he musn't neber, neber swallow no screws. He musn't eben put 'em in his little mouf. He musn't eben pick one up ef he found it. Well, de old lady went on home and it was 'bout a week 'fore Mister Andy found hisse'f a screw. Seem like when he did, it went down de wrong way and his pappy heard him stranglin' and coughin', and come shook him upside down till de screw fell out. When Mister Doctor George seen whut it was he gib de boy some of de nastiest-tastin' med'cine he had, and dey neber had no more swallowin' troubles wif him after dat. He 'membered dat med'cine eben better dan he did Miss Julie's goin'-ons. . . . Nome, I neber wasted much time tellin' mine whut to don't. It's time-savin'er to tell 'em whut to do."

"Spanking is another good time-saver, isn't it, Aunt Paisley?" I asked.

"Not in de long run, it ain't. Spankin', seem like, is a cheap, sloppy way to get 'round usin' yo' head. In de long run it don't seem like it saves no time, no more dan sweepin' de dirt under de rug is time-savin' in de long run. I done some spankin' in a pinch sometimes, but I don't know dat it saved me nothin'. I'd ruther trust to praisin' to save time. Dat's de quickest way I know to get a chile started right. But eben dat takes brains. You got to take keer to praise 'em 'bout whut dey got praise comin' to 'em for. Dey been times wif all of mine when I had to study right smart to find a place to brag on 'em, but I reck'n maybe dat's whut a mammy's brains is for."

"You should give Elaine your lecture on child training, Aunt Paisley. I had a few vague ideas on the subject, but no experience to back them up."

"Dat's me," Aunt Paisley nodded. "I neber had no special sperience atall. 'Cept for mine and my mammy's and my chillun's and my neighbors' and a few of de white folkses' I neber been 'round chillun to 'mount to nothin'."

Are Swimming Pools a Health Menace?

NOW that bathing pools are so rapidly becoming accessible to almost the entire population and private pools are being installed by the hundreds, the subject of swimming pool sanitation has assumed new significance. An attempt was recently made to look into the question, with the outcome that no generalization could be made. Some pools are sanitary and some are not, an article in the *Scientific American* maintains.

The author, Orson D. Munn, points out that the difficulty lies in trying to prove what harm has been done to the swimmer by the pool:

"Thus the swimmer now has a fine case of sinus infection, but when any one ascribes it to swimming in a pool, he may say it was only a coincidence. Of course, it might actually have been a coincidence. He cannot prove it wasn't. It is here, right between these two positions that a lot of swimming pool dirty work (literally) gets by."

A swimming pool is a real menace, no matter how beautiful and attractive the surroundings may be, no matter whether it is publicly or privately owned, if it is not scientifically managed. The author remarks:

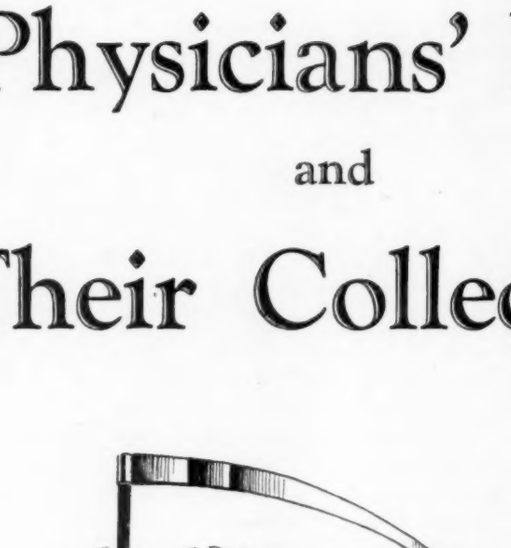
"Caring for a pool is a trade in itself, one requiring attendants who are capable of taking pains and actually interested in doing so. The commodity known as intelligence is also required. Unremitting diligence is demanded. Not every workingman is capable of caring for a pool. In the case of municipal pools local politics may prove as deadly a menace as the well known Bacillus coli."

Even in the most sanitary pools, risk is not small, but there is a certain amount of risk to everything. Again, man is not naturally a swimming animal. His ears, nose and skin are not adapted to excessive aquatic use. The third point that may be mentioned is that natural bodies of water may be far worse than swimming pools. At any rate the swimmer should be cautious on his own behalf in his choice of swimming holes, thus guarding against dangers so often present.

Physicians' Fees and Their Collection

By

Douglass W. Montgomery



Take Time by his much abused forelock.

THE only money that does one any good is that which one collects. Fees are the means by which physicians live, and although some of us try to conceal the fact, all of us love them, and in reality they can hardly come in fast enough to suit us. And this is a wise provision in nature for, even if money is the root of all evil, the remark made by Samuel Johnson is nevertheless true, that a man is seldom more innocently employed than when making it. Money is also the great incentive to work, and a man will endure untold fatigue and anguish in order to come by it.

A doctor's occupation is to listen to complaints and to try by every means at his command to rectify the difficulties for which the patient seeks relief. In doing this he acquires the right to extract fees. And thereby we come to the true inwardness of this article, for in the extracting of those fees there occur some of the most delightful insights into the mind of man that are vouchsafed the medical profession. And as Robbie Burns says:

"Ye'll find mankind an unco' squad
And muckle they may grieve ye."

For instance, how badly the public treats a young medical man! It employs him at all sorts of disagreeable jobs, and then not only refuses to pay him but heaps insults on his head. Few are able to take their troubles as jocularly as Bob Sawyer. It will be remembered that Mr. Pickwick was shocked that Bob was going to leave his patients without anybody to attend them.

"Why not?" asked Bob, in reply. "I shall save by it, you know. None of them ever pays. Besides," he added, in a whisper, "they will be all the better for it, for being nearly out of drugs and not able to increase my account just now I should have been obliged to give them calomel all round, and it would have been certain to have disagreed with some of them. So it's all for the best."

The practical Bob had already learned two things—that the public refuses to pay the young practitioner and that even simple drugs sometimes disagree in the most astonishing way.

Fees are matters of daily interest to physicians, who are not allowed to forget the subject even on Sunday when all the world is at rest, as by inference if not by assertion they have Biblical permission together with donkey drivers to work on the Sabbath. For it is written that an ass driver whose animal has fallen into a pit on the Sabbath may drag it out. And it

is even so, only worse, with the physician, who is expected to render aid to any ass who gets into trouble, whether on nights or on Sundays, without thinking of reward. This, however, does not prevent him from feeling how delightful reward would be should it come his way. The ass driver in the aforementioned transaction has at least saved something —he has his ass. The ass that the physician saves is rarely an asset. On the contrary, he may become a liability by borrowing from his benefactor that which he never intends to repay. Such a borrower must be avoided, not only because of the actual loss but also because of the trouble liable to follow. Whistler, in his "Gentle Art of Making Enemies," naively and truthfully remarks that many, when a thing is lent to them, reckon it to be found, and so put to trouble those that helped them.

Dr. Marsh presents a bill for fifty cows.

An amusing instance of borrowing occurred to a friend of mine in San Francisco. Some one rang his doorbell at 3 o'clock in the morning. The doctor, a hard worked general practitioner, stirred himself uneasily in his bed and finally arose and let in his caller, not an intimate acquaintance, who explained that he had been drinking too freely and wished to straighten up in a Turkish bath for the approaching day's work. Would the doctor lend him the necessary? He did, but the "necessary" was never returned unto him. Money that is cast upon Turkish bath waters has not a habit of returning.

Being awakened in the middle of the night is always a painful experience, and its hardships do not become any less with advancing years. Many persons find it a trial to get up early in the morning. Indeed, the psalmist David sings of the matter: "Vanum est vobis ante lucem surgere" ('Tis in vain for you to arise early in the morning). When a man advances on the road of luxury so far that he not only becomes careless of the voice of the morning but positively hates it, what will befall him if he is aroused out of his first sleep and impelled through his monetary necessities to dress and go out into the chill night air? King David never was awakened by a telephone call in the fore part of the night, when sleep is the soundest, or he would have written even more strongly of the matter. But in chasing fees it is necessary not only to set forth betimes, even before daylight, and to run apace but also often to go the length of staying up all night, which is an entirely different matter from getting up early in the morning.

I have already spoken about borrowing, and indicated how easy it is to separate a doctor from his money. In many instances money that has been earned by hard work is only got, if at all, by the most strenuous insistence. One day Dr. H. M. Sherman received a frantic phone call:

"Please call off your collector. He is here and I cannot get rid of him."

"He is, is he?"

"Yes."

"Well, I can't help you. He is just that kind of man, and will stay all day if necessary."

Dr. Sherman got his fee. Shortly afterward Dr. Chismore telephoned to Sherman asking about this patient, saying that he had received an urgent call to see him. Sherman answered that he had been paid, but that the collector had to stay with the debtor all day. Chismore did not visit the patient, not that he wished to save himself, but he did not like to expose his collector to unnecessary hardship.

Patients often pay only when they need the physician's services again, and in many instances the fear that they may need his services is the only thing that induces them to pay. This point of view frequently appears in literature, and a striking instance of it occurs in the wonderful "Book of Ecclesiasticus." I do not mean the "Book of Ecclesiastes," but the other, the apocryphal book, of which Burke said that it may not be inspired but it contains a deal of first class stuff. The verse in question runs thus: "Honor the physician and reward him, because you may have need of him." Such a verse could only have been written by a physician well seasoned in practice. As another instance, Burton, in his "Anatomy of Melancholy," remarks that physicians are to be honored for necessity's sake, which certainly expresses a patient's point of view.

Dr. Leo Newmark tells an excellent story of a patient who was tardy in paying his bill,

which was finally sent to a collector. He received the following letter:

Dear Doctor:

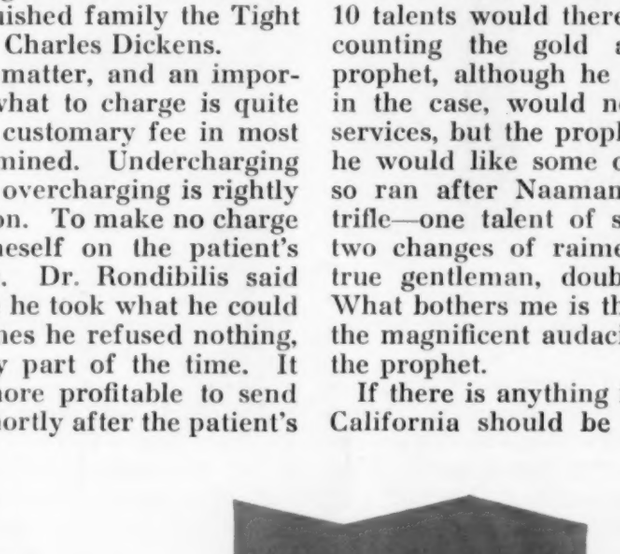
Please call off your collector. He is civil but very persistent, and he has brought back that pain in the top of my head for which I consulted you.

What could be more fitting than that the collector should undo the work that the physician had done? It would be fine if many collectors were endowed with this faculty.

This collector was the one previously mentioned as collecting for Sherman and Chismore. In fact he worked for quite a number of us. He was a little blear-eyed man with a skin covered with keratotic rough masses and one lower eyelid dragged down, showing the red mucous membrane. He was an Englishman, and I have always thought that he must have belonged to that distinguished family the Tight Barnacles, mentioned by Charles Dickens.

Collecting fees is one matter, and an important one, but knowing what to charge is quite different. A reasonable customary fee in most instances must be determined. Undercharging is self depreciation, and overcharging is rightly looked on as an imposition. To make no charge at all, but to throw oneself on the patient's generosity, is disastrous. Dr. Rondibilis said that from the bad people he took what he could get and from the good ones he refused nothing, but this works well only part of the time. It will usually be found more profitable to send bills out promptly, and shortly after the patient's recovery, while he is still grateful. A surgeon in San Francisco used to collect his fee in advance, on the principle that people pay more for what they expect than for what they get.

Benvenuto Cellini in his charming autobiography gives a lively description of Giacomo Berengario da Carpi who undertook a cure only after stipulating for his fees, which he reckoned not by tens but by hundreds of crowns. After securing a goodly amount of money he left town, and the author states it was well for him that he did so as his patients were much worse off after his treatment than before. He seems, however, to have secured some money as he managed to leave town.



The physician is expected to render aid to any ass who gets into trouble.

There are undoubtedly generous patients and many who, though they pay only the exact amount of the bill rendered, yet feel exceedingly kindly toward their physician. It may be that they even shave the bill a little and feel none the less benign. In fact, one of the pleasant surprises in the practice of medicine is to find how many people have a real affection for their medical adviser. But no matter how great the relief from pain or distress, it is rare to meet with such a free-handed generous gentleman of the old school as Elisha did. It will be remembered that when Naaman, the captain of the host of the King of Syria, went to consult Elisha in regard to his leprosy he provided himself with a lordly fee—10 talents of silver, 6,000 pieces of gold and 10 changes of raiment. A talent of silver is reckoned as being at least $1,645, and 10 talents would therefore be over $16,000, not counting the gold and the clothing. The prophet, although he was strikingly successful in the case, would not take anything for his services, but the prophet's servant thought that he would like some of those good things and so ran after Naaman and asked for a mere trifle—one talent of silver (about $1,600) and two changes of raiment. The captain, like a true gentleman, doubled the modest request. What bothers me is that I have rarely attained the magnificent audacity of even the servant of the prophet.

If there is anything in example, physicians in California should be prepared to demand at least respectable fees for their services, as the first doctor in the land of the Golden Lily, John Marsh, was not at all bashful in this respect. An entertaining biography of this remarkable man has recently been published by Dr. George D. Lyman. Dr. Marsh received a literary degree from Harvard, and, on arriving in California, showed his diploma to the Mexican authorities in Los Angeles. As it was written in Latin they turned it over to a priest for elucidation. He also could not decipher it, but as it evidently was a degree of some kind, it probably was a medical degree, and so the doctor was admitted to practice. He

afterward stocked a large ranch he possessed in the San Joaquin Valley with cattle he acquired in practice. He became renowned for his skill and was called professionally long distances. On one of these calls for an ailing child, he cured the patient with a dose of salts and demanded fifty cows as his fee. The family objected, but the doctor, who had what used to be called in California a stiff upper lip, stood firm. During the argument, which must have consumed some time, the lady of the house washed two of the doctor's shirts, for which she demanded twenty-five cows, whereupon the matter was settled, not to the doctor's contentment but by compulsion.

The Diplomatic Doctor

The amount of what a fee should be may often be conveyed to a patient more by suggestion than by a direct answer. One of my friends, an Irish doctor, sent me a patient with cancer of the lip to be treated with radium. The patient told me that, when he asked the doctor how much it would cost, the doctor replied that he did not know but at any rate it would cost less than a funeral.

A study of physicians who have achieved prominence or even immortality not through their own merits or attainments but obliquely by association would be interesting. A certain Robert Levett, a protegé of the great Dr. Samuel Johnson, did this very thing. As is well known, the illustrious lexicographer had a weakness for human curiosities, and this man's appearance was disgusting to the rich and horrifying to the poor, his intellectual attainments were meager and his patients limited to the humble. However, he resided under Dr. Johnson's roof and breakfasted with him every morning for twenty years and became his intimate medical adviser. Though much of Dr. Levett's time was employed in attendance on his patients, in which occupation he seems to have been most assiduous, he exhibited a keen desire for knowledge, as he attended the lectures of the great anatomist and surgeon John Hunter, and seized any other opportunities of improvement offered on the same gratuitous basis. Johnson, however, said of him that all his knowledge entered by the ear. He bought books but seldom read them, and had little skill in estimating an author's merit.

What interests us particularly in him in the present instance is his indiscriminating desire for gain, monetary or otherwise, described by Johnson in a funerary poem: "No petty gains disdained by pride." It seems that before he became one of Dr. Johnson's household he had married a woman of the town, who was about 60 years old. Although her residence was a small coal shed in Fetter Lane she persuaded him that she was closely related to a man of fortune who wrongfully kept her out of her own large possessions. She looked on Levett as a good catch, a physician already in considerable practice, and he regarded her as an heiress. Both were disappointed, the union was disastrous and a separation followed, after which Dr. Johnson took Levett home with him, where he continued till his death.

His sole vice, it appears, was an occasional departure from sobriety, and this according to Sir John Hawkins, Johnson's biographer, was also linked with a desire for material gain. Johnson used to say of him that he was perhaps the only man who ever became intoxicated through motives of prudence. He reflected that if he refused the gin or brandy offered him by some of his patients he would have been no gainer by their cure, as they might have nothing else to bestow on him. This habit of taking a fee in whatever shape it was offered could not be put off by advice or admonition of any kind. He would swallow what he did not like, nay, what he knew would injure him, rather than go home with an idea that his skill had been exerted without recompense. Had all his patients maliciously combined to reward him with meat and strong liquors instead of money, said Johnson, he would either have burst, like the dragon in the Apocrypha, through repletion, or been scorched up, like Portia, by swallowing fire. At the same time, this singular individual was not rapacious, as he demanded nothing from the poor nor did he attempt to enforce payment for his services.

Through association with a great man this otherwise insignificant individual has achieved fame to the extent of over a column of print in the Dictionary of National Biography.

But the great Samuel Johnson exhibited his magnanimity not alone to the individual, as previously indicated, but also to the profession at large. He believed that physicians as a class were possessed of great liberality and dignity of sentiment, and were prompt in the effusion of beneficence and in their willingness to practice a lucrative art in which there was no hope of securing lucre.

The Psychologic Effects of Diseases

Each malady has its own psychology, as for instance the hopefulness of consumptives. It is even so with willingness to pay for services rendered. Patients remunerate for care in some complaints readily or even munificently, while for other diseases reluctance or evasion is the rule. In collecting one's fee in the latter cases one takes Time by the forelock, as it is well known that Opportunity has no back hair. Leprosy, for example, is a peculiarly ungrateful disease; the Biblical story of Christ curing ten lepers and only one returning to thank him is true to life as we know it. And if the Deity can secure only 10 per cent of gratitude what may a poor mortal doctor expect?

Medical men are fond of comparing the meagerness of their fees to the lavishness of those obtained by lawyers, but the fees of lawyers are dwindlingly small in comparison with those received by politicians and administrators, and especially by military men. In our own day what medical man has received a fee like those given to Lord Cromer or Lord Roberts? In this connection, Shakespeare, as always, strikes true to life, as for example in King Duncan's reward to Macbeth and the indicated rewards to Banquo; whole estates were given to the lucky Macbeth. In Shakespeare, promises of reward are made to medical men but none are fulfilled, as for instance the promises of the good Cordelia should the physician cure her father. If Cordelia had lived, the doctor would probably have been well taken care of, for she was truthful, generous and kind, but she was killed, which is just a doctor's luck.

Even if a physician is successful he is not altogether happy, if he has a yearning for the love of his fellow workers. The young practitioners may especially be envious of him. Margaret Deland gives this point of view excellently: David Ritchie, who wished to become established and to marry Elizabeth, exclaimed: "Why in thunder don't I get ahead faster!" Then he told her that the older men in the profession were "so darned mean, even the big fellows, way up," that they kept on practicing when they could just as well sit back on their hind legs and do nothing. "They are nothing but money grubbers," Elizabeth agreed, burning with indignation as she scornfully condemned successful physicians.

The Marthas and the Marys

Once on an automobile trip I stopped a short time in one of the delightful towns in the southern part of our state. It was a paradise of salubrity, serenity and all desirable country pleasures. Besides being a most delectable health resort it was interesting to physicians on account of the number of residents who had made fortunes in humble forms of medical work. These "patent medicine" men represent the Marthas of our vocation, and certainly they are able to spread a fine dinner table before the Lord. We, the practitioners, have like Mary chosen the better part, but in choosing it we consider ourselves lucky if we are able to defray our modest daily expenses. In driving around this beautiful town it was interesting to hear what lowly occupations have been remunerative enough to build these mansions. True, indeed, is it that the mind is usually as lowly as the occupation, and the dyer's hand is subdued to what it works in; yet those who place their treasures in Minerva's citadel must be content to dwell in temples not made with hands. They get their fun in another way, and the end is the same for all, and they all are gathered into one grave.

We medical men should contemplate the "patent medicine" man from another angle. His obtrusive mendacities are a trial to the spirit of those who wish well to their fellowman, and his plenteous gains are an irritation to the meager bowels of those who do earnest work and are slenderly rewarded for it, yet he indirectly does the medical profession much good. If it were not for his continual advertising of medicine, thereby drawing the attention of laymen to the fact that they are ill and that there is possibly some hope of alleviation, we would have fewer patients and therefore fewer fees.

The Rewards of Service

In the early nineties I had in my employ a Russian named Maiewsky, a clever man but badly bitten with Bolshevism. He had studied medicine for three years in Montpellier, France, and his wife had spent an equal time studying medicine in Geneva, Switzerland. They had been requested by Tolstoi and Prince Kropotkin to conduct a colony of Russian doukhobors to Assiniboia, Canada. The doukhobors, like Christian scientists, do not believe in physicians, but it was most comforting to them, when a baby was being born or in any other event of equal importance, to have the Maiewskys present.

Like many Russians, Maiewsky was altruistic. In fact this constituted part of his Bolshevik religion, and he told me that he spent all of his own and his wife's patrimony in the service of these people. He said that he did not mind this so much, but he was deeply chagrined on learning that the doukhobors, instead of being grateful for his services, had a grudge. They considered that through their opportunity for performing good works the Maiewskys were winning a place in heaven superior to their own. Besides the pleasure of entertaining the grudge they had the added satisfaction of being free of any feeling of obligation. Although Maiewsky realized that the practice of medicine under such circumstances was unsatisfactory it did not disillusion his faith in communistic doctrine, but this blind faith is characteristic of all religions.

But in its rewards and in its disadvantages, in its hardships and in its pleasures, the practice of medicine is not at all a bad way in which to pass the time allotted on this earth. When carried on ideally as a personal service its rewards monetarily must necessarily be restricted, but usually they afford a decent living. The work itself, as it deals in human life, is interesting, and although the labor is sometimes onerous it is rarely monotonous unless one wishes to make it so by not taking enough interest in it. Even in the matter of gathering fees there are many surprises, both in what is gleaned and in what is lost; but human character and aspirations are so different that if one falls into a line of work that satisfies, one should be content, no matter what the reward.

How Science Solves Crime

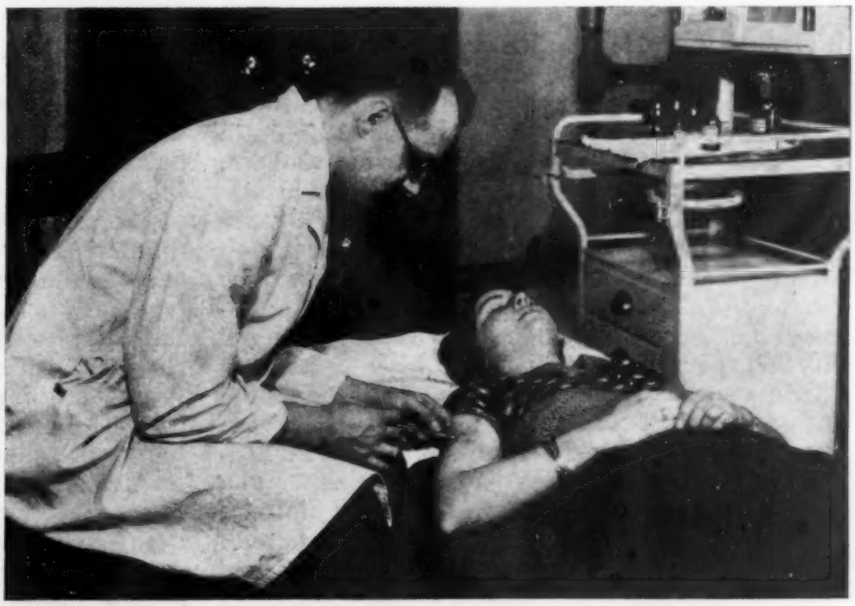
III. "Truth Serum," or Scopolamine, in the Interrogation of Criminal Suspects

By CALVIN GODDARD

THAT there is nothing new under the sun is a fact few will dispute. So when we describe certain modern methods of eliciting information from persons under the influence of various drugs, such as scopolamine, we must bear in mind that these are, in reality, but improvements on cruder measures that our forebears frequently employed. "In vino veritas." Many a state secret has been divulged by imprudent gentlemen whose tongues have wagged a bit too much under the influence of alcohol administered to them by solicitous friends with that very end in view!

Even among savage tribes the properties of certain plants were not infrequently invoked, much as today scopolamine is employed, in efforts to wring from suspects information concerning their criminal activities. Father Nicholas de Leon, who in his volume "Camino del cielo" chronicles some of the customs of the Mexican Indians, includes the following in a list of questions for the priest to ask the penitent: "Have you taken peyotl or given it to others to drink in order to discover secrets or the whereabouts of lost property?" Peyotl is a plant containing various alkaloids, which produces in one who eats it a state of seminarcosis accompanied by strange visions and hallucinations.

Thus the introduction of "twilight sleep" (morphine-scopolamine narcosis) into obstetric practice, first extensively undertaken by Steinbüchel in his clinic at Graz University, Austria, in 1903, and its later employment in a different field—the interrogation of persons suspected of participation in, or knowledge of, various crimi-



Within one to two hours after injection of the first dose of scopolamine the patient is in the proper state for interrogation.

nal acts—do not represent, save in perfection of technic, a real scientific discovery.

While we must give due credit to our German brethren for the discovery of the useful part scopolamine can play in obstetrics (and it seems particularly fitting that this should have emanated from Graz, the home of Hans Gross, who may fairly be called the father of modern methods of criminal investigation), Americans may nevertheless take a just pride in the fact that its adaptation to criminology was first extensively exploited by one of our own countrymen, Dr. Robert E. House of Ferris, Texas. The first recorded experiment in this field was also carried out by a Texan, Dr. W. M. Hale, Dallas county health officer, in the Dallas County jail, Feb. 13, 1922.

SCIENTIFIC CRIME DETECTION LABORATORY

CASE OF B. M. October 25, 1931

Questions (as prepared by subject of test).	Replies under Scopolamine	Correct replies
1. On what date were you married?	June 3, 1918	June 3, 1918
2. How old is your wife?	32	32
3. Do you like hunting?	Yes	Yes
4. Do you like New York?	Yes	Yes
5. Can you live on your salary?	Yes	Yes
6. Are you basically right or left handed?	Left	Left
7. Are your children right or left handed?	Left	Left
8. How many children has your brother-in-law?	One	One
9. Are you going back home around Christmas?	No	No
10. Have you ever been in a submarine?	No	No
11. Have you read Xenophon's Anabasis?	Yes	Yes
12. Does your wife like to smoke?	No	No
13. How many cylinders has your car?	4	4
14. Do you own a piano?	Yes	Yes
15. Have you ever had a broken limb?	Yes	Yes
16. Do you mind the firing of cannon?	Yes	Yes
17. Were you ever badly seasick?	No	No
18. Do you ever wear bow ties?	Yes	Yes
19. Were you ever arrested for a motor vehicle violation?	Yes, as a prep school boy in Virginia.	No
20. Can you read German fluently?	No	No

Dr. House's intimate knowledge of the effects of scopolamine on the human organism was acquired during a period of service as house surgeon of the Parkland Hospital, Dallas, in 1897 and 1898, in connection with the administration of a routine treatment to cocaine and morphine addicts that involved the employment of this drug. Later, as an obstetrician, he observed that patients apparently sound asleep under its influence might nevertheless be quite conscious of the import of questions asked them, and answer these fully and freely. In an article by him which appeared in the *Texas State Journal of Medicine* (September, 1922) and which was reprinted in the *American Journal of Police Science* (July-August, 1931) the following statement appears: "My attention was first attracted to this peculiar phenomenon, Sept. 7, 1916, while conducting a case of labor under the influence of scopolamine. We desired to weigh the baby, and inquired for the scales. The husband stated that he could not find them. The wife, apparently sound asleep, spoke up and said 'They are in the kitchen on the nail behind the picture.' The fact that this woman suffered no pain and did not remember when her child was delivered, yet could answer correctly a question she had overheard, appealed to me so strongly that I decided to ascertain if that in reality was another function of scopolamine!"

Dr. House's further investigations disclosed the fact that while a subject is narcotized by scopolamine those areas of the brain that he must call to his aid if he wishes to fabricate a pretty—but untruthful—story appear to be in a "high resistance" zone; that is, in a zone in which communication across synapses (nerve terminals) is very difficult. On the other hand, the paths leading to those areas in which the memories lie stored away remain freely open, unaffected by the drug, and a question that arouses these memories is likely to be answered truthfully and in no little detail. Furthermore, the inhibitions against permitting the truth to slip out, which are constantly present in the undrugged individual, are for the time being asleep. Lying becomes arduous, if not impossible, while the truth escapes spontaneously and unchecked.

To quote Dr. House again, "Scopolamine will depress the cerebrum to such a degree as to destroy the power of reasoning [but] events stored in the cerebrum as memory can be obtained by direct stimulation of the centers of hearing. . . . The precentral cells contain the

cells of highest thought, yet the cells of hearing make the cells of the other four senses subservient. . . . The stimulus of a question can go only to the hearing cells. In pursuance of their functions, the answer is automatically sent back, because the power of reason is inhibited more than the power of hearing."

Having made these all-important observations in the course of his obstetric practice, Dr. House was prompted to apply in the field of criminology the knowledge thus gained. Accordingly, he secured the necessary permission from the authorities and from various convicts concerning whose participation in certain crimes he wished to satisfy himself. His original technic of administering the drug was to give one-fourth grain of morphine and one one-hundredth grain of scopolamine, followed in twenty minutes by one two-hundredth grain of the latter. Thirty minutes later the subject was lightly anesthetized with chloroform, allowed to rest for the following half hour, and then given one four-hundredth grain of scopolamine. Twenty minutes thereafter he failed to respond to the memory test.

This memory test, which is employed most successfully in his obstetric practice by Greenwood of London to determine when the proper degree of amnesia has been reached, involves the exhibition of some familiar article, such as a cake of soap, to the subject early in the procedure, followed by questioning at varying intervals as to what it was that was shown him. As soon as the amnesia is so complete that he cannot recall the object displayed, he is considered to be in a proper state for interrogation.

The Technic of Testing

For somewhat over a year, various members of the staff of the Scientific Crime Detection Laboratory of Northwestern University, Chicago, have been conducting experiments with scopolamine and another drug producing similar effects on the cerebrum. In almost every instance, the subject has been not a criminal but some respected member of society who has volunteered to take the test, promising to lie consistently (if possible) in response to every question put to him. The usual procedure is for the individual to prepare a list of questions to which he alone would be likely to know the correct answers, such as "What was my mother's middle name?" "In what city was my father born?" Having written out say twenty such questions, he sets down the correct replies on a second sheet of paper and seals this in an envelop, to be opened only after he has fully emerged from the effects of the drug. Then, having resolutely determined to give a truthful response to none, he receives his first injection.

For numerous reasons, the most important of which is that we have yet to reach definite conclusions as to the best technic to follow, I shall not attempt to describe the dosage employed or the number of injections required to induce the correct degree of narcosis. Suffice it to say that, as a rule, in from one to two hours subsequent to the administration of the first dose, the patient is in the proper state for interrogation. Should the questioning be begun before he is fully "under," as it were, and should he retain some power to elaborate falsehoods, this ability wanes rapidly, and the final response that he gives to each question propounded is, as a rule, truthful in every particular.

Checkmate—Truth Will Out

In the case of one of our own staff members who volunteered for a test, although his replies were in the beginning untruthful their complexion soon began to change, and in the end they checked in every instance save one with the correct answers that he had prepared and sealed in the manner already described. In the only case in which they failed so to tally, the question involved was, "Have you ever been arrested for a traffic violation?" His correct (sealed) answer was "no," but under the drug he recounted an experience in Virginia a number of years back in which he had been arrested and fined for such an infraction. When we compared his answers as given under the drug with those he had written out prior to its administration, and confessed that he had "licked" us on this one point, having fabricated a yarn about being arrested when this was really not the case, he looked befuddled for a moment, and then laughed aloud. "By golly, it's true," he said, "I was arrested and fined. I had forgotten all about it!"

So we see that one quality that scopolamine possesses is to open up memory paths long since obliterated so far as our normal consciousness is concerned!

Another interesting instance of a similar nature involved the case of a police officer who had forgotten the name of the firm in a distant city from which his automobile, a present to him from a relative, had been purchased. Having spent a number of days vainly attempting to recall this, he requested, just prior to submitting to a scopolamine test, that we make it the subject of one of the questions to be asked him. We did, and he replied without hesitation, giving the full name and street address of the concern in question!

A second drug that we have been employing with varying degrees of success in researches of similar nature is sodium amytal (sodium iso-amyl-ethyl-barbiturate). Credit for visualizing the potentialities of the compound for usefulness in this new field and for being the first to put it to experimental test belongs to Dr. W. F. Lorenz, director of the Wisconsin Psychiatric Institute at Madison. While its effect is in general similar to that of scopolamine, it acts

much more quickly, the subject being asleep within a few minutes after receiving the initial dose; if this dose is correct in amount, he is ready for interrogation within from twenty to thirty minutes. In these cases, the injections are given intravenously, while the scopolamine is administered hypodermically. So far, our results with sodium amytal have been far from uniform, and in one case it failed completely to inhibit the subject's power to respond untruthfully. By this I do not mean that we feel it to be without value, but indications are that much experimentation with it must be carried out before any standardized technic may be established.

In the May number, Lt. Col. Calvin Goddard will discuss the uses of the ultraviolet crime detector in the scientific solution of crime.

On the other hand, we are inclined to think that we are already in a fair way toward developing a more or less routine method for the administration of scopolamine, though much of course remains to be done. The question of what drugs, if any, should be used in conjunction with it, and in what amounts, remains an open one. But that it can and will yield results of the utmost value in criminal investigations is evidenced by a series of cases recounted by the former prosecuting attorney of a large southern city, under whose direction they were conducted.

A number of murders of a most brutal and revolting character had been perpetrated over a period of many months, and the police had been unable to apprehend any of the gang involved. Finally, a group of suspects were rounded up, and all were subjected to questioning under the drug. In every case in which the authorities had reason to believe the individual guilty, save one, complete confessions were obtained! And yet they could hardly be termed confessions, for they were mere recitations of stored-up memories on the part of those interrogated. On awakening from the semistupor accompanying the narcosis, none had any recollection of the statements they had made. But when confronted with these in written form, as taken down stenographically at the time, each broke down, admitted the truthfulness of the statements, and signed a confession prepared after all influences of the drug had departed.

So we have in scopolamine, and perhaps in sodium amytal as well, a new and powerful instrument for the detection of the criminal, as well as for the exoneration of the innocent suspect. Of course, subjects cannot legally be forced to take the drug, and, according to Prof. C. T. McCormick, "the use of drugs to produce a state wherein conscious suppression is impossible has not won acceptance even in theory." The law moves slowly. But if it really seeks the truth, as I am inclined to believe it does, the administration of scopolamine or some similar agent in order to elicit truth will eventually win acceptance, though the struggle to force its recognition will be a long and bitter one.

Finally—a note of caution. Scopolamine and sodium amytal when administered aseptically in proper dosage by skilled hands produce no more untoward after-effects than a subsequent sense of sleepiness and some incoordination of voluntary movements, lasting rarely more than twenty-four hours. In too great dosage or not properly controlled, dangerous and even fatal results are a ready possibility. Under no circumstances should any save those thoroughly familiar with the physiologic effects of these drugs consider experimenting with them.

Pioneers of Medicine

Sir Patrick Manson

By

Claude Lillingston

Never refuse to see what you don't want to see or what may go against your own cherished hypotheses or against the views of authorities. These are just the clues to follow up, as is also, and emphatically so, the thing you have never heard of or seen before. The thing you cannot get a pigeonhole for is the finger point showing the way to discovery.

—Manson's Maxims.

SOME of the world's greatest pioneers of medicine have been one-idea men. They have worked at an idea most of their lives, and by so doing have brought it to perfection—not really dull folk to meet but rather tiresome, particularly after the first hour or two. One is tempted to think and speak of them as monomaniacs. As one pinches oneself to keep awake in their presence, it would be well to remember that they are among mankind's greatest benefactors and that the world would be much the poorer without them.

Far more infectiously attractive is the pioneer who strikes sparks whatever the subject his genius encounters—the man who sees where millions before him have been blind, who in his stride gathers kindred spirits around him, all catching and reflecting some of his radiance. Manson was such a seer and leader; to meet him was a rare stimulus and to know him personally was an inspiration.

Manson was not Irish, as his Christian name suggests, but Scotch, with a dash of Viking blood in his veins. The second son in a family of nine, he was born, Oct. 3, 1844, in Aberdeenshire. His father was Laird of Fingask and a bank manager to boot. His mother was singularly distinguished, being endowed with no mean artistic talent and being noted for her good looks and resourcefulness—two qualities she passed on to her second son. He does not, however, seem to have shone at school, and if he had already begun to live up to the maxims quoted at the beginning of this paper it is easy to guess why his masters did not shower prizes on him. He was learning to become an engineer when, at the age of 16, a curvature of the spine developed. The enforced rest needed for this condition diverted his attention to natural history, and this led to his taking up medicine as a profession.

Early Years in the Far East

By 1864, at the age of 20, Manson had already passed his final examination. In the following year he worked in a lunatic asylum, carefully dissecting the brains of the insane and trying to find out their secrets; a blind alley this, but it showed what inquisitive, inquiring stuff he was made of. In 1866, he was appointed medical officer in Formosa, whence he moved, four years later, to Amoy, a treaty port on the Chinese mainland.

In Formosa and Amoy, Manson quickly learned the limits of his knowledge of tropical medicine. Beriberi was only a name to him; he knew nothing of its cause and less than nothing of its successful treatment. He could not even diagnose it at sight. And when he found a Chinese clerk sitting propped up in a chair, short of breath, and dropsical from head to foot, he could only suspect heart disease and pre-

scribe accordingly. When he called next day to note the improvement his remedies must surely have effected, he found the patient dead.

Some years later, when Manson saw a number of Chinese soldiers suffering from what appeared to be locomotor ataxia, he assumed that they were incurable. But they gave this verdict the lie by shortly afterward returning to military duty. These were exasperating experiences; it is no easy matter for a young man who has "satisfied the examiners" at home to find hard facts convicting him of boundless ignorance when he sets forth to practice the profession he is supposed to have learned. Book knowledge in this field hardly existed at this date, and Manson might well have been excused if he had lapsed into a resigned and ignorant empiricism.

When Manson returned to England in 1875, he sought to find in museums and libraries answers to the numerous questions that had puzzled him in China in connection with such diseases as elephantiasis. Most of his time was wasted in this search for a literature that hardly existed; but he was fortunate enough one day to find in the British Museum the records of a Dr. Timothy Lewis of the Army Medical Service in India, who had found in 1870 certain worms in the blood of Indians—parasites that he called Filaria sanguinis hominis.

With this clue to the possible causation of elephantiasis, Manson returned in 1875 to China. He found filariae in the blood of several of his Chinese patients, and in order to determine the frequency with which it occurred, with the help of two Chinese medical students he examined the blood of 1,000 natives. One student worked by day, the other by night. Manson soon noted that the more assiduous night-worker was much more successful in producing slides containing the microscopic parasites than was his fellow day-worker.

With one of those intuitive guesses that his genius prompted, Manson wondered if the negative observations of his day-working assistant might not be accounted for by the entry of filariae into the blood stream only at night. Further observation showed that this guess was correct and it was even noted that when patients turned day into night, their parasites followed suit. When, in 1877, at a meeting of the Linnean Society of London, Manson discussed these chronological vagaries of the newly discovered parasite, one of his irreverent colleagues wished to know whether Manson thought that Nature had provided the blood filariae with watches!

Manson soon came to the conclusion that the parasite he was finding so frequently in the blood at night could not be the adult form; it must be the embryo of a much bigger parent. This embryo was only one-eightieth inch long, had neither mouth nor digestive canal, and was incased in a loose sheath, in which it seemed to struggle aimlessly, like a pig in a poke. He argued that these embryos could not develop further in the blood because, in the numbers in which they swarmed, they would in so doing destroy their host forthwith. So he suspected that only a few of these embryos came to maturity and that they did so by entering another host.

In 1876, Dr. Bancroft in Australia discovered the adult worm, a hair-like creature almost 2 inches long, both sexes being found in the lymphatic tissues. Pondering over the ways and means by which the parasite might complete its life cycle outside its human host, Manson wondered whether the appearance of the embryo in the blood only at night might not be connected in some way with the habit of the common brown mosquito of Amoy to bite only at night. To us who have held the answers to this riddle as a gift, this coincidence may seem simple; but in the seventies the idea that a winged insect could disseminate germs of disease was startlingly revolutionary.

Obviously, such a profound upheaval as that which Manson's new conception of the genesis of a parasitic disease implied could not be accepted until he had produced convincing proofs. He found them in his filariae-infected Chinese patient whom he made to sleep in a mosquito cage. The next morning the engorged mosquitoes were collected and kept alive as long as possible. Dissecting these mosquitoes with a pen point, Manson was able to follow the peregrinations of the embryo parasite that the mosquito had sucked up with the Chinaman's blood. He traced the parasite through the stomach wall into the abdominal cavity of the mosquito and hence into its thoracic muscles.

The publication of these observations in August, 1878, brought Manson both fame and criticism. He accepted both with equanimity, and his imperturbable response to the applause and jeers of his fellow beings throughout his life showed of what metal he was made. A good example of his indifference to personal

hostility is to be found in the story of his encounter with a Chinese mandarin who entered his room one day and deliberately spat on the floor to show what manner of man he considered Manson to be. A man cast in a smaller mold would doubtless have reacted to this insult in the style characteristic of primitive man. But whatever indignation may have been excited in Manson by this greeting evaporated when he saw that the sputum on the floor was tinged with blood. The primitive cave man instantly gave place to the scientific explorer, and seizing some of the sputum with forceps, Manson placed it under a microscope and was delighted to find the eggs of a hitherto unknown worm.

History does not relate what the mandarin thought, but one may imagine him stealing gently out of the room in sympathetic distress over this tragic exhibition of insanity in the poor foreign devil. The parasite in question turned out to be the lung fluke, whose eggs hatch out in water, turning into mobile organisms which first enter a fresh-water snail, pass thence into a fresh-water crab, and then into the lungs of human beings.

Some of Manson's success in life depended on his activities as a zoologist. While most doctors were thinking in terms of man, and man alone, seeking the secrets of disease in the human body alive and dead, Manson widened immeasurably the scope of his inquiries by including the whole range of animal life. In this he was unintentionally assisted by the great difficulty he encountered in the conducting of postmortem examinations in China. On the rare occasions when he was allowed to do so, he made important discoveries of new parasites in the human body, but as a rule he had to confine his postmortem examinations to dogs, cats and birds, whom he found to be the involuntary hosts of a whole world of new parasites.

Manson's Varied Activities in Hong Kong

In 1883, Manson settled in Hong Kong where he combined scientific research and medical education with general practice. He founded the Medical School and the Medical Society of Hong Kong, becoming the society's first president. He organized a dairy for the provision of cow's milk to the sick and needy and to the European children; and he was so busy attending to the calls of general practice that he had little time for sleep and less for research. Yet it was during this busy period of general practice that he gave the first accurate description of the disease called sprue. Noting that it was most common among hard drinkers in the town, he used to remark drily that sprue is the past participle of the verb to spree. Doubtless, other important observations would have been made during this period but for the ever present and urgent claims of bread earning.

The wear and tear of Manson's many occupations in Hong Kong had begun to tell on him; he had suffered from one attack of cholera and from several bouts of gout. So in 1889 he retired to Scotland, there to enjoy the restful country life he had so well earned. Fortunately for the rest of the world, Fate did not allow him to fish placidly in the waters of Aberdeenshire for long. Within a year family misfortunes and the depreciation of the Chinese dollar drove him back to work, not, however, as a night-bell general practitioner. He was recognized as the greatest living authority on tropical diseases, so what more obvious than to settle down as a consultant in London? This he did, but the years that followed were financially lean.

Knowledge and Insight Spelled Success

The very lack of material success during the first years of Manson's life as a consultant in London may have been a blessing in disguise, for in the primitive laboratory he fitted up at the top of his house he studied the life histories of numerous parasites instead of listening to those of wealthy patients in his consulting room downstairs. Explorers in various tropical countries sent him specimens of blood to examine, and in this way he identified several hitherto unknown parasites of the blood. His combination of profound knowledge with intuitive insight gave him an almost uncanny gift of predicting the life histories of the parasites he collected about him.

It was this happy combination that led Manson, in 1894, to anticipate the incrimination of the mosquito as the carrier of malaria, by a guess that was as brilliant as it was carefully reasoned. As we have seen, he had several years earlier proved beyond doubt the rôle played by the mosquito in filarial infection of the blood. He would have liked to test the accuracy of his malaria-mosquito theory in British Guiana, and to this end he sought the modest grant of 300 pounds from the Royal Society, which saw fit to refuse this sum. So Manson had to stay at home and entrust the exploration of his theory to another—Ronald Ross. How Ross confirmed Manson's theory in India is a story needing pages to itself.

But though Manson was not to spend the latter half of his life in field work, his work at home was prodigiously fertile. He made London a great center of tropical medicine, and, thanks to the generosity of John D. Rockefeller, the magnificent new London School of Hygiene and Tropical Medicine is a vital tribute to this handsome, kindly and large-hearted pioneer, who had earned for himself the title of "The Father of the Modern Science of Tropical Medicine," given him by a French savant. His death, April 9, 1922, evoked from one of his countless admirers the testimony that he had "warmed both hands before the fire of life."

Heart Murmurs in Children

By Gustave F. Weinfeld

THE frequency with which heart murmurs occur in childhood and their occasional ominous significance justify serious consideration. Just as the incidence of tuberculosis has been abated so will the scourge of heart disease be mitigated by public education. In a relatively short time the public has learned much of heart disease, and the benefit of this knowledge has been the saving of many lives.

In the wide dissemination of scientific information there lurk the dangers that accrue from the incomplete assimilation of knowledge. For example, there are many who have learned of the frequent association of heart murmurs and heart disease, and they often err in the belief that a murmur indicates serious heart disease. While it is true that the murmur may be a serious finding in certain cases, yet in most instances it is unimportant. These facts are admittedly perplexing for the parent. He dare not neglect the child who has a diseased heart, and it is equally important not to make an invalid of the child whose heart is normal.

The parent who learns that his child has a heart murmur may rightfully inquire, "Is this murmur indicative of heart disease?" and "To what extent must I exercise caution in the supervision of my child?" These questions can be answered only by a more detailed elucidation of the problem.

As the heart beats it gives rise to two distinctive sounds, which are plainly audible to the trained ear. These sounds are produced by the rhythmic contractions of the muscles and the closure of the valves. Any other sounds that occur in the heart cycle are abnormal, even though they may be insignificant.

The most common abnormal sound is referred to as a murmur, or bruit. It is of a blowing character and it varies in intensity, pitch, duration and position in the heart cycle (the sequence of heart tones). It is spoken of sometimes correctly, but more often incorrectly, as a "leak." These murmurs are either functional or organic. The organic murmur is indicative of a diseased heart while the functional murmur is not. Commonly they do not lend themselves to immediate differentiation. Supplementary diagnostic procedures and prolonged observation are often necessary before this distinction can be made.

The frequency of murmurs among children is great. From 8 to 10 per cent of all children have murmurs at some time or other; however, only a relatively small percentage of these are organic in nature.

These organic murmurs are produced by mechanical factors. As the blood courses over smooth surfaces and through normal inlets and

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The child with a functional murmur should be treated as a healthy, normal person.

outlets of the heart chambers, no sounds are created by its flow. When there is a roughening of the inner lining of the heart and covering of the valves or when the outlets and inlets of the chambers undergo a change in their caliber, a murmur is produced. The process is not at all unlike that of a smoothly flowing stream striking an obstacle in its course or a nozzle applied to a garden hose.

Almost every child who has suffered from heart disease possesses an organic murmur. Usually it is the first signal that the heart has been damaged. Unfortunately its presence is only too often first detected at a routine physical examination at school or camp. If it is discovered early in the course of the disease the patient's life may be so regulated that further injury will be avoided.

Another type of organic murmur occurs independently of infections. This is found in children with congenital heart disease. The abnormal sounds produced are usually characteristic and depend on the congenital anomaly present. The diagnosis of this defect is obtained only after properly evaluating all the concurrent findings.

The organic murmur in itself is not the most important sign of serious heart damage. Its intensity is not always proportional to the gravity of the lesion present. It may increase when the heart muscles grow stronger and even disappear when they weaken. Only a complete physical invoice can point the way to a proper diagnosis and to adequate treatment.

Functional Murmurs Are of Benign Nature

The sound created by a functional murmur is at times characteristic, but it may closely resemble that of the organic murmur. Their mode of causation is entirely different, for clinical and postmortem studies have conclusively shown that functional murmurs are not produced by cardiac disease but are always associated with a normal heart. Just what factors are responsible for their production is not known.

In the light of our present knowledge we are justified in assuming that functional murmurs are of unimportant clinical significance and that they are benign in nature. Dr. Lincoln recently made a seven year cardiac study of more than 300 New York school children. She found what was believed to be a functional murmur present at some time or other in more than 8 per cent of these children. Practically every child outgrew the murmur and the functional nature was proved in each instance. It was possible to draw these conclusions only after time had made certain that the murmurs were not organic.

There is an element of danger in making a premature diagnosis of a functional murmur. Dr. McCrudden's studies of life insurance statistics are interesting in this respect. He found a higher mortality rate from heart disease in those persons who presumably had a functional heart murmur at the time of their insurance examination than occurred in those persons in whom no murmur was heard. If there had been an opportunity for repeated examinations over a long period of time, the true organic nature of the murmur might have been revealed. At any rate it would seem to indicate the potential gravity of any cardiac abnormality.

Murmurs Need Not Cause Alarm

Misinterpreted murmurs most frequently result from inadequate observation. Of the two possible errors, it is the functional murmur that is more often incorrectly considered to be organic in nature than vice versa. The child whose activity is restricted because of an incorrectly diagnosed organic murmur will suffer no great physical harm; the danger for him lies elsewhere.

To make an invalid of a healthy child is to penalize the innocent. The days of youth are sufficiently short without robbing them of their greatest treasure—abandonment in play. The unnecessary restriction of bodily activity limits physical development. Overemphasis of personal handicaps invokes intraversion and neuroses.

The knowledge that one's child has a murmur should never be a cause for alarm. The home must not be filled with oversolicitousness, fear and prohibitions. Nor should there be total indifference. The murmur in itself means nothing; only the well trained physician after making repeated examinations and various tests is able to determine its significance. It must be remembered that many persons with murmurs, even organic ones, have led a long, full and active life; while others through ignorance or indifference have been sacrificed to a premature end. Our attitude should be a rational and balanced one. There must be cautious casualness and sane concern.

The child with a functional murmur should be treated as a healthy, normal person. Periodic physical examinations will render the assurance that the heart condition has remained apparently normal. The patient with an organic murmur obviously requires frequent observations. In this case, the amount of restriction inflicted on his physical activity will depend on the findings of the physician. Restriction of this activity is unnecessary when it can be made certain that the heart is functioning efficiently and that no active infection is present. Heart murmurs in children may or may not be harmful, but only a physician can decide.

Sanitation Goes Modern

By W. W. Bauer

A DAY spent at the complaint desk of any health department would demonstrate conclusively the major interest of many citizens in their public health department. Complaints of neighbors shaking rugs out of the upper windows, of ash piles permitted to increase until they become eyesores, of corner catch-basins plugged with falling autumn leaves so that water stands in the gutter, of black smoke issuing from chimneys, of odor from the manure that the neighbor is spreading on the lawn, of dust from coal-screening operations, of children and tramps committing nuisances in abandoned houses, of partly razed buildings in whose exposed basements water is gathering, of tin cans deposited on the sidewalk instead of in the city dump proper—these are what concern many persons.

Sometimes the investigation into such complaints reveals that they are based purely on malice, with the avowed intention of getting even for a real or fancied injury done the complainant by the person complained against; in most instances, however, the complaint is sincere. Of course all these conditions are undesirable; they are evidence of a lack of consideration and decency toward one's neighbor. They are properly the subject of attention by city authorities as a matter of municipal housekeeping and orderliness and a proper cultivation of civic pride. But they are not worthy of attention as factors influencing health, at least to any significant degree.

A Health Menace—or Merely a Nuisance?

There are plenty of sanitary matters, on the other hand, that do have vital influence on the health of the people and are deserving of serious attention and deliberation. While inconsequential things are occupying the attention of the public, health departments have difficulty in arousing interest concerning matters that merit thought. The minor sanitary complaints I have enumerated ought, as a matter of fact, to be subject to police supervision; such jurisdiction would go far to disabuse the minds of many persons as to health significance of annoying conditions that rank only as nuisances. It would also make many more inspectors available for nuisance correction; any police officer could easily attend to minor sanitary violations in his territory as a routine matter in addition to his regular patrol duties. As it is now, the cop reports complaints to the health department, and a sanitary officer is sent out, making two motions where one would have accomplished the trick. But to get down to sanitary matters of real importance:

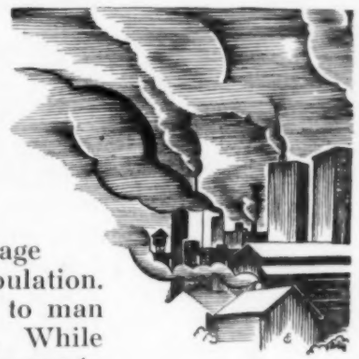
Man's first necessity is water. Unfortunately, as man utilizes a water source, he usually ruins it in the process and does not start protecting his supply until outraged nature strikes back at him with retribution in the form of epidemic disease.

Industry's Responsibility in Sanitation

We are inclined to feel superior to our forebears when we read of butchers being allowed to clean carcasses and entrails in the waters of the Fleet, and mills diverting the tide from that same river until pollution became intolerable and the authorities in a burst of indignation ordered the offending structures removed. But are we so different? We still permit the cleaning of carcasses and entrails in the waters of our public supplies, with the difference in detail that, instead of taking material to be cleansed to the river bank, the industry now pumps the river into the plant and spews it out again, unrecognizable; a difference that represents progress for the convenience of the industry but from the standpoint of sanitation leaves us pretty much on a par with the fourteenth century. And as for the mills, do we or do we not destroy our natural water courses and the living things they support with the effluvia from all kinds of industrial processes?

Harsh words for industry? Well, they apply with equal force to our municipalities that have with cynical indifference turned out into the

nearest available surface waters their sanitary and industrial sewage, leaving the whole disgusting mess for their neighbors to cope with. We are waking up at last, it is true, but there is small cause for pride in such a belated wakening. We have been bludgeoned into it, and perhaps it is even now too late. The golden rule should have been applied long before this to our use of the surface waters that belong to all the people, not to any one group or industry or even municipality.



The problem of water sanitation involves two phases that are inextricably interwoven; namely, procurement of pure, palatable, potable water, and decent disposal of the sewage produced by the given unit of population.

Perhaps no food is more important to man than milk, but it constitutes a problem. While it is not a perfect food, it does come nearer to completeness than any other natural food substance available. Its greatest disadvantage is that bacteria relish it and thrive on it equally with man. As a result, many serious outbreaks of disease have been traced to milk-borne infection, notable among these diseases being typhus fever, scarlet fever, septic sore throat, diphtheria, measles, smallpox, Malta fever and certain types of tuberculosis, to mention only the most important. More than that, dirty milk has been proved guilty of responsibility for that dreaded disease of infancy, so-called summer complaint, which in times past accounted for enormous numbers of baby deaths, especially in crowded cities during hot weather, and gave rise to the fear of the "second summer." This fear still lingers in the hearts of some mothers, though every doctor now knows that the menace of the second summer lay not in any mysterious constitutional peculiarity of that time of life, but simply in the dangers of dirty food, dirty fingers and dirty utensils.

Cities are gradually waking up to the importance of clean milk—and I say gradually not because it is a pretty word in that location, but because it is aptly descriptive of the speed with which some of our communities are hastening to procure safe milk for consumption by babies and adults.

There are a few basic principles for the production of clean milk, foremost of which are the following: health of the producing animals, especially as regards tuberculosis and contagious abortion; cleanliness of the animals, especially udders and flanks; cleanliness of milking utensils and hands of the milkers; prompt removal of the product from the barn; immediate cooling to a temperature as near 40 F. as possible; clean handling in the dairy and on the delivery route; delivery in bottles only; finally, and most important, pasteurization of all except certified milk. There can be no compromise with these requirements, yet many cities content themselves with one or more of them without demanding all. Especially are they timid about pasteurization. Sometimes their reluctance is explained by a hesitancy to put somebody out of business who is not equipped to pasteurize, as if he had not thereby demonstrated his unfitness for the dairy business! Or they procrastinate because of a fancied loss of food value in pasteurization, whereas the truth is that pasteurization does not injure the value of milk as a food.

Supervision of milk supply by frequent inspection, checked by laboratory examinations of the milk bought in the open market and by mechanical records of pasteurizing temperatures, is a sanitary activity that means something, and is worth spending money on, as contrasted with the silly spectacle of an inspector routinely investigating thousands of garbage cans to see that they are sanitary! By all means let us have offending garbage cans restored as speedily as may be to a state of grace, but let us not consider such activity as the final end and goal of municipal sanitation.

Protection of our food supply is a real sanitary problem. No longer does the subsistence of the community come from within or from the immediate neighborhood. Oysters from the coast of New Jersey are eaten in the valley of the Mississippi, oranges from Florida and California are to be had for the asking in Maine or Montana, Wisconsin milk travels in glass-lined tanks to Florida, Idaho potatoes have been adopted by the Pullman company, beef from the Argentine may share the same sandwich with butter from Australia—there is no end to the variety in which foodstuffs may be had far from their places of origin. Now we hear that quick freezing is going to make it possible to have fish and peaches, and who knows what else, anywhere and any time, and be unable to tell them from the fresh articles!

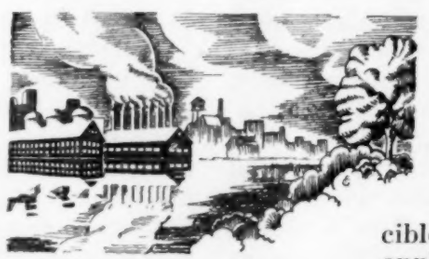
It is a tale of modern miracles, no doubt, but it creates its own quota of problems for the sanitary service of a health department. I am more interested in the necessity, as it seems to me, of cities—yes, and counties too—shaking themselves out of their ruts and getting behind some modern plan of food supervision, with chemical as well as bacteriologic laboratories

available, in order that citizens may eat in safety of a varied diet drawn from the marts of the whole world, without being called on to pay for these pleasures and advantages with diseases drawn from the remote coasts of the Seven Seas. For contaminated food can carry typhus fever and cholera from infected far-off coasts; meats can be responsible for such conditions as trichinosis and tapeworm; canned goods imperfectly processed can produce the dread and fatal botulism. Here are matters for a sanitary officer to take hold of, not so easy as ordering the litter removed from an alley, but a thousand times more significant.

No "Before and After" Snapshots

The pity of it is that the more important activities do not show up as conspicuously as, for instance, "before and after" snapshots of the triumphant removal of packing cases and paper litter from the rear of a down-town store. Their results are hidden in the death statistics, which nobody ever reads except the health officer and the undertaker, or else are reflected only in such intangibles as the general well being and freedom from needless illness of the citizen groups. As a matter of fact, the average citizen is unlikely even to suspect the existence of the inconspicuous but vital safeguards that the community is throwing about his health—if it is!—even while he is keenly conscious of the rubbish in his neighbor's yard.

Supervision of the meat supply, apart from general food protection, is an important sanitary function. Not only can tapeworms and trichinosis be transmitted through meat, but tuberculosis must specifically be guarded against, to say nothing of the sale of immature meat, spoiled meat and adulterated meat products. While the federal government handles much of the burden of meat inspection, because the distribution of meat in the United States is largely an interstate business, it must be remembered that meat produced locally and not shipped across state boundaries is out of the jurisdiction of the federal inspectors.



This supply of locally slaughtered meat may form, especially in medium-sized and smaller communities, a considerable proportion of the total distribution, or even all of it. The people are entitled to protection against danger arising out of their meat supply, and here again we have a sanitary responsibility that far outranks in importance the presence of a dead cat in the gutter. Not that I yearn to see the thoroughfare before my window strewn with deceased felines, but I would far rather have the health department a trifle slow in gathering up that unfortunate kitten than have it asleep at the switch while a butcher with a fancy salesroom and an elastic conscience sells me rotten meat camouflaged with preservatives, and makes my whole family sick.

Other foods offer opportunities for adulteration or, through careless handling, for infection. Not long ago, I was called on to look into the cause of an outbreak of intestinal disease among adults and children of three families living in the same neighborhood, who came down with their illnesses simultaneously. The trail was as plain as elephant tracks through mud. It led to a bakery, at which all of them had purchased eclairs. These confections, inquiry disclosed, had been made on Saturday and sold cheap on Monday because they had not all been disposed of as expected. The cream filling for them had been allowed to stand on a shelf, uncovered, over night, and was discovered to be contaminated with mouse droppings. Is this, or is it not, more important than protecting landlords against tenants who move away and fail to have their ashes hauled before they go? I'm asking you!

Modern Methods of Garbage Disposal

Then there is the question of disposal of what remains of the food after it has been used—in other words, garbage collection and disposal. Incredible as it may seem, there are still municipalities that have the collosal effrontery to gather up their garbage and dump it into bodies of water, whence it returns to pollute the bathing beaches and water supplies of their neighbors, and sometimes, by way of poetic justice, of their own, in which case they usually hastily mend their ways. Others use garbage for filling and ultimately make parks of it, a method that requires a lot of care and plenty of nonputrescible covering material promptly applied, if the park is not to be paid for while under construction by intolerable suffering on the part of its neighbors. Some cities maintain or contract for the maintenance of hog farms, a most atrocious nuisance to their environment in every instance. More and more, communities are coming to see that destruction of garbage is the only proper way to handle it. Whether by incineration or reduction, in the latter case with recovery of by-products to be marketed, is a nice engineering argument into which I am not going to be enticed.

The point I wish to make is that garbage should be removed expeditiously and cleanly from the community without offense to its own citizens or those of other like jurisdictions, and at as low a cost as possible.

There is much complaint about smoke too, especially in industrial cities, and most of it lands in—or on—the health department, on the

general theory that whatever the citizen does not like must be detrimental to his health. But the basis for these complaints, even when they are coupled with apparently considerable increases in the complainant's blood pressure, is almost always monetary loss or annoyance, and practically never health. The neighbor's chimney smokes when the wife is hanging out the clothes, and she calls up in high indignation to tell about the dirty soot that has soiled her spotless sheets. Who can blame her? Or the newly painted home is given a deluge of black greasy soot from a nearby oil burner through the entire winter, and by spring it looks like the southwest corner of a misspent life. Of course the owner complains, and why not?

Smoke nuisances should obviously be abolished, but not alone because the pall of smoke is excessively profitable for the electric light and cleaning businesses. The real reason, if it is health we are talking about, is that we live by sunlight, and in the northerly latitudes where winter is long and dark and spent mostly indoors to boot, we are starving for sunlight. We cannot let industrial smoke, badge of prosperity though it may be, rob us of the light of our lives. Especially is this true because smoke is not a necessary accompaniment of industrial processes.

Noise is the latest of the unfavorable influences in his environment against which man has begun to raise his defenses. In the larger population centers especially, and most of all in their congested business districts and tenement quarters, the incessant din has threatened to shatter the nerves of the workers and dwellers. It has been shown by experiment and experience that the constant bombardment of the brain through the ear has a definitely fatiguing effect which, if carried too far, may result in exhaustion, to say nothing of the deafness chargeable to certain extraordinarily loud noises to which workers in certain industries, such as structural steel, are exposed over long periods at close quarters.

It is not going to be easy to conquer noise, for to do so will mean the expenditure of considerable sums of money in changing processes of manufacture or other commercial practices and in treating buildings for the exclusion or muffling of noises that cannot be throttled at the source. Even though it has been shown that reduction of noise increases efficiency and cuts down errors, thereby saving more than it costs, there is going to have to be a battle before the idea is put across.

The point of this whole discourse is that Mr. Citizen has some definite ideas of what the community owes him in return for his tax dollar, and usually he gets what he wants. It may take time, but he gets it. It is important, therefore, that he want what he ought to have in his own best interests, since he is the ruler in the democracy. Especially when his health is concerned, he ought to be demanding twentieth century service, not fourteenth century.

National Negro Health Week

THE WEEK of April 3 to April 10, 1932, will mark the eighteenth annual observance of the National Negro Health Week. In March, 1915, Booker T. Washington, founder and principal of Tuskegee Institute, said: "The future of the Negro race depends on the conservation of its health." At that time he issued a statement suggesting that a week in the month of April each year be designated as Health Improvement Week. This week has now grown to be one of national observance.

The more than ten million Negroes who constitute one tenth of the population of the United States are "a health asset or a health hazard in proportion to their knowledge of hygiene and their capacity to exercise sanitary control of their homes and premises," Booker T. Washington continued.

The gross birth rate of this people of large families is reduced to a small net increase by the excessive mortality.

Disease takes a heavy toll. Tuberculosis and the venereal diseases constitute a health problem of great proportions among the Negroes of this country. Pneumonia and malaria also dominate. Cancer, too, is increasing the mortality rate in the middle age group of the Negro population. In 1929 the mortality records for the registration area of the United States showed a rate of eleven deaths per thousand white persons and approximately seventeen deaths per thousand Negroes. The life expectancy of the American Negro is shorter by ten years than that of the white man.

The program of the National Health Week, which becomes a year-round program, affords numerous avenues of approach to these problems. They are in part as follows: cooperation with health officers and health agencies to ascertain facts and determine methods of procedure; contact with state and local Negro organizations to secure interest in the problem and support of measures sponsored by the state and local health officers; the training and employment of Negro public health nurses; physical education and medical, dental, nutritional and nursing services in the Negro schools; and a constant campaign for an understandable, workable relationship.

Keeping the Creative Mind Up to Par

By

Joseph M. Creamer

Samuel Johnson, tramping through the English countryside, "forsook all ye rich and heavening foods."

DURING my sophomore year at college I worked on a small daily in my home town. Here I met a young man intensely interested in literature. He had a novel and numerous short stories to his credit and was a member of a local writers' guild. One night he persuaded me to attend a meeting with him.

"Well, Rod," said my friend, as we seated ourselves, "what's on tonight?"

The young man addressed turned toward him: "Why, haven't you heard? Clifton Aswell, the novelist, is going to speak on how, by physical exercise and that sort of thing, one can avoid a slump. Here he is now."

Lights were dimmed, and a tall, rather young man mounted the platform, shuffled a few sheets of paper and began.

"Tonight, gentlemen, I have been requested to speak on a topic as old as literature itself; namely, the cause of a slump or lack of ideas in creative workers, both writers and artists.

"Mencken and the esteemed Samuel Johnson have approached this problem in a number of their essays. They have realized that an abundance of ideas depends on a physically clean and exercised body.

"Mencken in his 'Prejudices, second Series,' mentions the fact that 90 per cent of the mediocrity or lack of creative work may be attributed to an obstructed alimentary canal. In other words, you who sit at your desks or boards groping aimlessly for the essential idea may be the voluntary victims of your own ignorance.

"Samuel Johnson dreaded overindulgence, and when this misfortune overtook him at his famous Cheshire Cheese he spent the following day in long tramps through the beautiful English countryside and, in his own words, 'forsook all ye rich and heavening foods.'

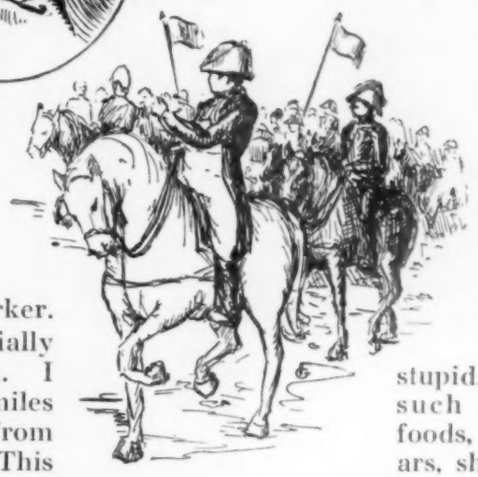
"All sedentary workers are heavy eaters and heavy sleepers, these conditions being due, no doubt, to the physical activity of our ancestors. The result is a dull, drugged body on arising.

"Proper exercise and careful diet are, from my own experience, among the foremost factors in keeping the creative mind up to par. Two

years ago I began to follow six simple rules which, I believe, have added materially to my success:

"1. I began to watch my sleep. Napoleon, it is said, slept but five hours each day and during his campaigns barely laid his head to rest, but in my own case and in the case of many successful men whom I have known I find that fifty-six hours of sleep each week is the average. When food may be disregarded, sleep is a vital factor for the creative worker.

Napoleon slept but five hours a night; few of us are Napoleons.



"2. I found that exercise told materially in the results obtained in my work. I found that walking at the rate of 4 miles an hour each day for a distance of from 4 to 5 miles kept me physically fit. This I did every morning, averaging at the rate of seven hours a week, and when possible I added to my record on Sunday with a game of golf or tennis.

"3. I adopted loose, airy clothing even in winter. I found from years of experience that tight, heavy clothes distracted the mind during the process of thinking. It is small, insignificant distractions that lead to great errors and mediocre work.

"4. I ate less. This, I know, will prove to be a disconcerting revelation to my listeners, but if they follow it the joy of physical comfort will, no doubt, offset the urge of appetite.

"During the first month I rigidly followed this outline: The first week I did not eat any eggs or meat; resuming them the second week, I ate of them sparingly. I ate plenty of fresh fruit and vegetables. I did not take coffee or tea for an entire month and drank them again only when I knew that the physical stimulation induced would be to my benefit. To become fat is easy, but it is stupid. Foods producing fat, such as potatoes, starchy foods, white bread and sugars, should be given a wide path in the diet.

"5. I ate plenty of roughage foods, such as bran, turnips, peas, spinach and cabbage. Some say that these foods are difficult to eat, but prepared attractively and eaten at intervals they are but the way to a clearer and sharper mind.

"6. During my hours of work I allowed plenty of air to circulate in my study. This offset any urge to become drowsy and kept the atmosphere clean and cool.

"Remember, the slave is controlled. We, on the other hand, control our own destiny, and physical well being is but the gateway to a fruitful life."

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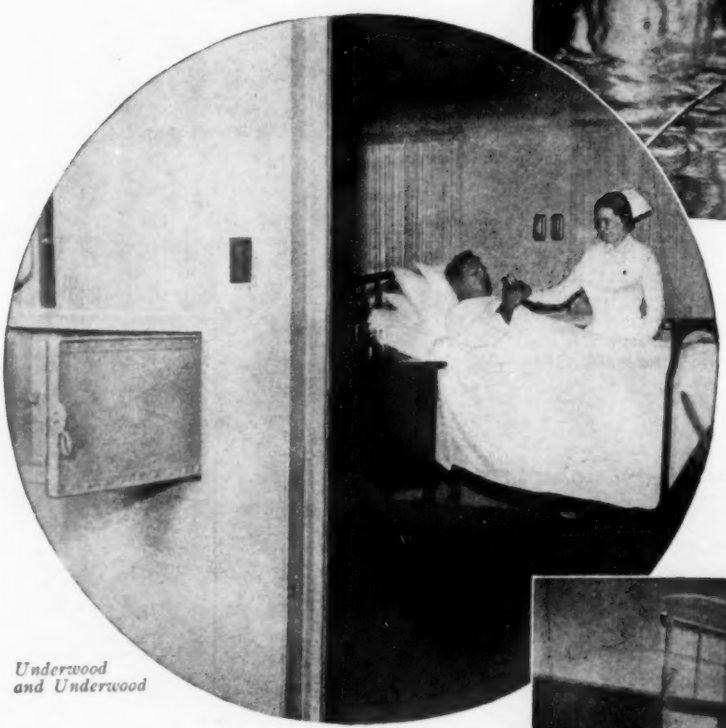
YOUNG EXPERIMENTERS

Children at Smith College enjoy their experiments in feeding white rats to discover which foods make one fat and which make one lean.

Ewing Galloway

SPRING IS HERE

Who expects to find a boy at home on an April Saturday morning?



Underwood and Underwood

CARDIAC TREATMENT

The camera points into a room that can be flooded with pure oxygen kept in circulation. The door can be tightly locked and food passed through the queer device at the left.

P. & A. Photo

MODEL PENITENTIARY

The prisons of Germany are provided with every facility to help the occupants regain health and social position. A prison hospital ward illuminated by ultraviolet rays is pictured here.

KNIFE BLADE IN BRAIN

Surgeons at Cook County Hospital successfully removed from a patient's brain a blade embedded there in a fight thirty years ago.

An exciting roller-skating hockey match blocked traffic "on the sidewalks of New York."

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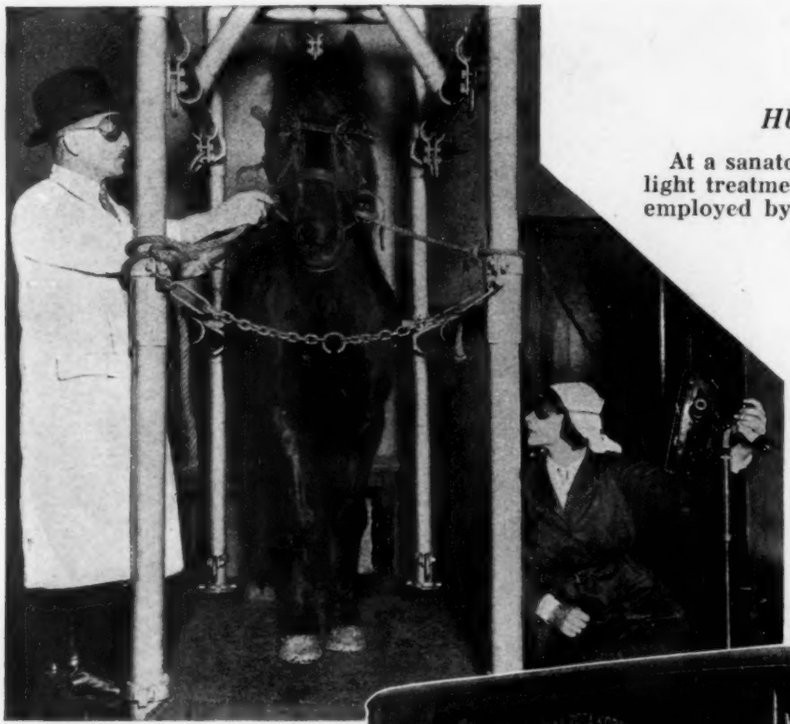

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HUMANE TREATMENT

At a sanatorium for sick animals, artificial sunlight treatments are given to pets and to animals employed by the poor.

TRAVELING CLINIC

Swedish-Americans donated this Red Cross clinic on wheels for use in Northern Sweden where dental facilities are limited.

Acme

IODINE SOURCE

The odd-shaped plant below, which resembles the horns of an elk, is the kelp, a valuable source of iodine.

Herbert Photo

WATER BABY

A swimmer at 19 months, the young man at the right learned as early as 9 months of age the advantages of a healthful sport.

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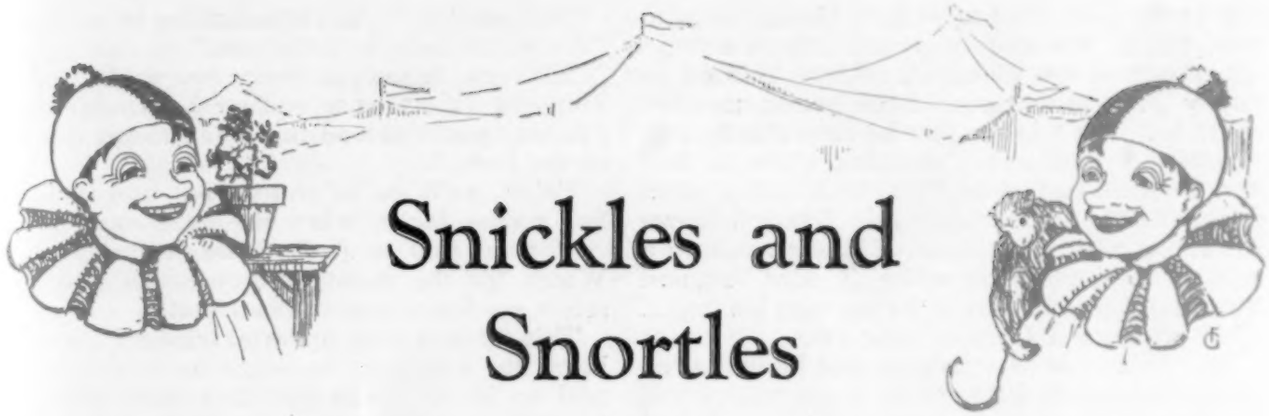


Snickles and Snortles

A New Children's Serial About the Circus Twins

By NELLIE G. HERRIMAN

CHAPTER I

FOR two little boys to have no names except last ones is surprising, but many strange things may happen in a world as large as this one. These were queer little boys. In appearance they were exactly alike, and they were in the habit of doing exactly the same things. For instance, when their lovely mother called one of them, the other always came running too. Because they had no names, she always called "You," and, as we all know, "You" may mean any one who hears it. So, when their mother said "You" one queer little boy would pop up under her right elbow, and another would pop up under her left elbow.

There had to be some way to tell them apart, so their mother hit upon a happy plan. She decided that the one who came to the right elbow should be called "You," and the one who came to the left elbow should be called "Yoo," until she could find better names for them. It was a bit confusing, but we must remember that she was a busy lady in a big circus and had little time to hunt for names. Besides, she was very, very fond of her little twins and wanted names that suited them exactly. "Perhaps," said she, "it will be easier to tell what names exactly suit after they have become a little bigger."

The boys were, as I have said, exactly alike. One was just as round and fat as the other, and the second was just as short and chubby as the first. And what surprising faces they had! One noticed immediately their noses, which were red as ripe tomatoes, very long, and curved up from their white faces like the handles on saucepans. Their eyes were bright and blue, with red, blue, and purple rings about them. Their mouths were large and had black circles at the corners. They were pleasant mouths, even though queer, for they wore such happy smiles that all the mouths around them wanted to smile too.

"Come right in! I know you are hungry."

You and Yoo may have had clothes such as ordinary children wear, but I had not seen them. The suits they wore were half white and half red and fastened down the front with black buttons almost as big as saucers. Their shoes were much too large for them and would often get in the way, so that the boys frequently fell down and had to help each other up. When they both fell down at the same time it was quite interesting.

Upon the shoulder of You sat the tiniest brown mon-

key I ever saw. You must have given him good food, for he was as plump and spry as a robin when worms are plentiful, and he seemed as happy as a mischievous little brown monkey could be. You told me that he gave Dandy (the monkey) a bath every morning when he had had his own, and rubbed him well with a towel so that he would not take cold. Dandy's brown fur shone with cleanliness. He often put up a wee paw and patted the white cheek of You, and You would scratch Dandy's chin with his finger. They were good friends, these two.

Yoo did not have a monkey, but he had a red geranium, which he kept in a green pot and carried out into the sunshine every day. It had great rosy blossoms, and people used to stop and admire it as it sat on a box by the door. His mother often told him that his geranium was the brightest spot in the whole circus.

"My, how I wish we were big enough to put on a regular act of our own," said Yoo wistfully one bright day in summer. "It is fun to prance around the big ring behind the elephants, of course, and I always feel happy when the people laugh at my big shoes and funny nose, but it must be grand to be a part of the big show, and have other people depend on us and everything."

"And have a real name that suited us," sighed You. "Just imagine!"

"Well, boys," said their mother, "I shall be glad to help you arrange an act as soon as you are strong enough, and I think we will be able to find names for you before another season."

"Oh, goody!" shouted the boys together. "How can we grow strong in a hurry?"

"Well," she laughed, "that takes time, of course, but there are many ways by which one can make time fly fast. I haven't told you, but I have already made arrangements that I am sure will be a great help."

"Tell us, quick!"

"I have decided that circus life is too hard for such young people, especially those who need to grow—"

"But, mother, we CAN'T leave the circus!"

"Not even for a little while? Not even long enough to find a name and become strong enough to put on an act of your own?"

The boys nodded their heads thoughtfully. "Yes, we would do anything for that. What is your plan?"

"I have asked your grandmother if she would like to have you stay with her until the circus season starts again next summer, and she said she would be delighted. On her little farm she has chickens, ducks, a cow, a fine big apple orchard, a hill to slide on—"

"Oh, don't tell us any more!" Yoo was dancing on one foot. "Won't we have fun!"

"But, mother!" You was looking at her sadly. "We would have to leave you."

"I'll come to see you every few weeks, sonny. You may take Dandy and your geranium, and I'm sure you will find the time passing quickly on the farm."

"Well, we'll go, of course, but how can you find names for us when we are gone?"

"I want you to find names for yourselves. Watch for the finest thing you can find, and select your own names from that."

This seemed a big undertaking for such small boys, but they were so eager for names and a real act in the circus that they were willing to attempt anything, even to deciding what was the finest thing in life. So they packed away their circus suits in their little suitcases and put on the ordinary clothes their mother had purchased for them. After much discussion they decided to take the circus suits with them for, as their mother said, they might need to be clowns while they were at their grandmother's, and how could they be clowns without their suits?

At last the big day came, and their mother took them to the little farmhouse where she had lived as a little girl. It was a cozy white cottage and shone with cleanliness and sunshine.

"There is no better place to become strong and well than in a little white cottage in the country," said their mother as she opened the green gate.

A plump little woman with red cheeks, white hair and blue eyes that twinkled behind gold-rimmed glasses ran from the door and hugged them all at once, then each separately, and then all together again.

"My, my, my!" she cried. "How glad I am to see you! Come right in! I know you are hungry, for it is just time for lunch." She led them into a shining little living room that

"You are the finest cook in all the world," said Yoo.

smelled of clean fresh air and glistened with sunshine and cleanliness.

She laughed and talked while she gave them their luncheon of baked potatoes, bread and jam, milk and ripe fruit, and soon the boys felt as if they had been there a long time.

"Dear me, how can you tell the boys apart?" she asked, looking at the twins.

"The one who comes to your right elbow when you call is You, and the one who comes to your left elbow is Yoo," explained their mother. "We hope they will be able to find new names for themselves while they are here so that it will be easier to tell them apart."

"We are going to search for the finest thing in life and take our names from that," added You, stroking Dandy's silky hair.

They pretended to be warriors in battle.

"There couldn't be a better way to choose a name," said their grandmother cheerily. "I hope you will find it quickly."

"I have decided that a nice house like this is the finest thing," said Yoo. "But I wouldn't want to be named after a house."

"Of course not," chuckled his grandmother.

"The finest thing is right here in this house," said their mother. "It isn't the house itself or the things in it. But it is here."

"Tell us what it is," begged You.

"No, you must find it for yourselves. It wouldn't be nearly so fine if I told you."

The boys had a happy afternoon becoming acquainted with their new home and knew a moment's sadness only when it was time for their mother to go back to the circus. But she assured them that she would visit them often, and parting wasn't so bad, after all.

They investigated the whole farm, learned to feed the chickens, tried to milk the cow, climbed the trees in the orchard and threw down apples for supper, rolled down the long hill where they would slide when the snow came, and, when they found evening had arrived, decided that living in the country would be great fun.

After a simple but plentiful supper of bread and milk, eggs, carrot salad, and the apples they had gathered, their grandmother tucked them snugly away in bed beside an open window.

"Sleep well," she told them. "There are many things to do tomorrow."

"Gee!" said Yoo after she had gone downstairs. "We should get strong here in no time at all."

"I feel better already," agreed You. "And look at Dandy! He has had the time of his life, and is sound asleep. I never knew him to go to sleep so early." Sure enough, Dandy was curled up in the moonlight, snoring gently.

"We'd better follow his example," said Yoo.

The next morning they were awakened by a brisk tapping at the door.

"Time for baths, boys, and a happy 'Good morning' to you," said the cheerful voice of their grandmother.

"My, that is a fine way to wake a fellow up," said You.

"Nothing like starting the day right," agreed their grandmother.

The boys sang lustily at their baths, and Dandy chattered as fast as he could.

At breakfast Yoo was unusually quiet. He ate heartily but seemed to be in deep thought. All at once he said:

"Grandmother, have you a lot of money?"

"Tut, tut, child, I should say not! Why do you ask?"

"I'm trying to think what is the finest thing in life. If you haven't a lot of money it can't be that, for Mother said it was here in your house. Wish I could find out what it is."

"Be patient, and you'll soon find out."

"Wouldn't it be fun to have our names when Mother comes for her first visit?" cried You.

"It surely would. Now skip out to play, and build up those muscles of yours, while I wash the dishes and brush up the floor."

"Oh, no, we'll help you before we play," objected Yoo.

It didn't take the three of them long to do the morning's work, and then they all went out into the fields and gathered berries. Even after that was done they found plenty of time for play.

As the days went by the boys became brown and rosy. They found that they never felt really tired, although they were glad to go to sleep at night. They weighed themselves on the scales in the barn and found they had gained 3 pounds each.

"Hurrah!" cried Yoo. "See how strong I'm getting. Bet I can chin myself on the edge of the manger." He tried it and found that he could do it easily with one hand.

"Say, I've an idea!" said You.

"What?"

"I'll bet strength is the finest thing in life!"

"Hmm! I wonder if it is!" Yoo looked thoughtful. "I hope it isn't."

"Why? I think it's pretty fine."

"Of course it is, but don't you remember the strong man in the circus? He just bulged with

muscles, but what a cross old bear he was! If having the finest thing makes one crabby, I don't want to have it."

"Perhaps strength isn't what we're searching for, although we must have it too. By itself, it wouldn't be enough." You rubbed his head thoughtfully. "Besides, Grandmother is awfully old and weak, but Mother says she has it. What do you suppose it is?"

"Yoo hoo! Supper!"

"There she is now. Supper time, and I'm hungry as two wolves." The twins raced toward the house.

Their grandmother was holding the dining room door shut. "Big surprise!" she said.

"Oh, what is it?" said Yoo.

"Company?" asked You.

"Guess again."

"Something good for supper?"

"You've guessed it," she laughed. "I thought I'd surprise you by having everything you liked. I've been cooking all afternoon." She threw open the door. "Look! Fried chicken, mashed potatoes, salads, pie and cake, candy—everything!"

"Gee!" gasped the boys together, and Dandy chattered. It was quite exciting.

"Come on, Yoo, let's get washed in a hurry, so we can get busy on that meal!" You shouted. As he raced toward the pump he called back, "There was never a nicer surprise in the whole world, Grandmother!"

They hardly took time to dry their faces and hands thoroughly, and Dandy was still a little moist when they came to the table, but they were shining from their brisk rub with soap and cold water, and Grandmother did not make them run back to finish the task.

What a meal they ate. They ate all they needed, they ate all they wanted, and then they ate some more! They loosened their belts and slid their chairs away from the table, and then they ate some more. At last neither of them could swallow another bite; Dandy had finished his meal and lain down for a nap long ago.

"Phew!" sighed You, rubbing his stomach. "That was a real meal!"

"You are the finest cook in all the world, Grandmother," said Yoo.

They went out on the porch and sat on the step, feeling very tight. For a long time they sat there, saying nothing, doing nothing. They just sat, even when Dandy awakened and coaxed for a romp.

When bedtime came they climbed the stairs slowly, brushed their teeth lazily, undressed drowsily, and finally dropped on the wide bed.

"My, that was a good supper!" Yoo yawned.

"Yoo, I have decided that our search is ended."

"Huh?"

"We can choose our names any time. Good food is the finest thing in the world." You sat up in bed, his eyes wide with excitement.

"Uh-huh, I guess you are right, brother," Yoo sighed. "Lie down, and let's go to sleep."

It was a little after midnight when Yoo felt himself being shaken.

"Wh-what is it?" he yawned.

You was twisting uneasily on the wide bed. "I have changed my mind."

"What do you mean?"

"About food. It isn't the finest thing in the world."

"Why?"

"It is making me sick," You groaned. "Oh, brother, I think I'm dying."

"I'll go and tell Grandmother." Yoo slipped from under the cover and jumped to the floor, but sat down on the edge of the bed suddenly. "W-why, I don't feel so well myself!" he exclaimed.

"Are you all dizzy and full of aches?" You asked. "That's the way I feel."

"Yes, and my head just buzzes. Oh, oh, wouldn't it be awful if we both should die?"

"Is there something the matter, boys?" Their grandmother came into the room, a candle in her hand.

Yoo lay down again. "Yes, we are both awfully sick. I think we are dying."

"Oh dear, it is all my fault! I thought after you had gone to bed that I had given you too much for supper. When I heard you talking I was sure you were sick, and so you are!" The poor old lady wiped tears from her eyes and went for the soda.

She came back, still weeping, and gave them each some soda in water, which, I'm sorry to say, didn't help much. Then she brought a bottle of some quite terrible-tasting white medicine and poured a spoonful into the mouth of each twin. The medicine was almost as bad as the pains, but they knew they must take it. Hot towels on their tight stomachs made them feel somewhat better, but they spent a most unhappy night.

They felt almost well the next morning, but their grandmother told them they had better stay in bed until noon. She brought them oranges for their breakfast, but they were not at all hungry. She hurried around, caring for them and doing the morning chores, her rosy face quite pale.

"Grandmother seems unhappy," said You.

"Yes. I miss her smile and the little song she always sings in the morning."

"She is tired, I think. You know she worked with us all night. I believe she will feel better soon."

But Grandmother didn't cheer up at all that day, although the boys were able to be up and help her a little with the evening chores. The next day she was still quiet and unhappy, and the next day she was no better. She seemed anxious instead of merry when she called them, and her eyes were sad and tired looking.

"Oh, boys," she would say. "I was so thoughtless! I wanted to be kind, but only made you sick. What will your mother say when she comes?"

"It doesn't seem like the same house, does it, Yoo?" You would say. "Grandmother was always so bright and cheerful, and the house was so sunny."

"I'm afraid she will be sick, if we don't do something to make her happy," said Yoo. "But what can we do?"

"Let's put on our clown suits and see what we can do."

Grandmother was surprised a little later when two little fellows with long, curved red noses, white faces and perfectly enormous feet came stumbling into the kitchen where she was washing the vegetables for supper. One of the little fellows fell down. The other tried to help him up, at which he, too, fell down.

They seized long spoons and pretended to be warriors in battle, but only succeeded in finding themselves on the floor with their feet badly entangled again. Dandy leaped into the heap of red suits and waving huge feet, and playfully pinched the first ear he saw. It was an exciting time. Before Grandmother knew it she was laughing as if she had never known a sad moment.

"Ha ha ha!" she laughed. "Ho ho ho! Tee he he!"

"Well," said the cheerful voice at the door. "This certainly sounds like Grandmother's house. The air is just full of giggles and chortles."

"Mother!" shouted the boys, and Dandy chattered wildly.

After the happy greetings were over, Mother asked, "But what was all the laughter about just as I came?"

"We were celebrating," said Yoo. "We were just cheering things up a little."

"Now I know what the finest thing in the world is!" squealed You. "It is to have happiness, laughter and sunshine!"

"Of course it is! I knew you would find the answer," Yoo's mother patted his white cheek.

"There's nothing better anywhere, I'll bet," said Yoo. "I want to be named for that, but where will we get a name that suits?"

"Mother said two words that sounded just right," You said, scratching his head. "But I can't remember just what they were. One of them sounded like er-er-snickles!"

"And the other was snortles!" shouted Yoo. "That's the name I want."

"And I want Snickles; may I have it for a name, Mother?"

"Well, if you wish, although I'm sure they are unusual names. However, they stand for the best things there are, and I'm sure the world has no better names for two jolly little clowns. What do you think, Grandmother?"

"I'm well pleased. And to think that they found new names all because I made a mistake and fed them too much!"

"Very well, Grandmother, I'm sure your mistake was made because of kindness, so it was not a bad one. Now when you call the boys the one who comes to your right elbow will be Snickles and the boy who comes to your left elbow will be Snortles. I'm sure there are no happier names in the whole world!"

(To be continued)

The Cross Word Puzzle Cow

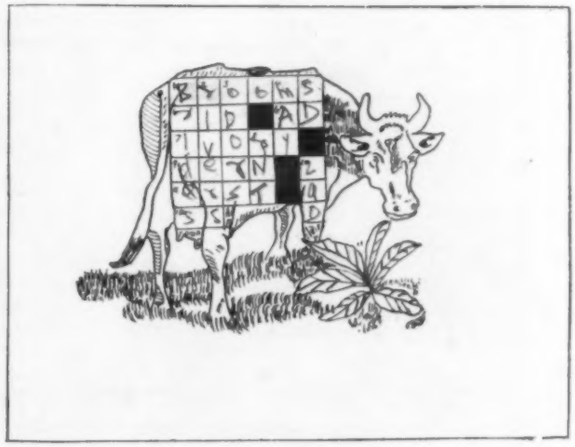
By Vivian Koski Cook

DOWN

1. Girls newly married.
2. Large streams of water.
3. Scent (plural).
4. Fifth month of the year.
5. Abbreviation for South Dakota.
8. Abbreviation for Route Northern Traction.
10. Boy.

ACROSS

1. Sweepers.
6. To remove.
6a. Abbreviation for advertisement.
7. The material of which piano keys are made.
9. Hidden.
11. In the first place.
12. Abbreviation for Sunday School.



(Answers on page 370)

THE BALLAD OF WHOOPING COUGH

My Betty Jane's caugh whooping cough
From the brat just down the street;
And a meaner wretch than his mama
I don't expect to meet.
She let that imp roam far and wide;
She let him come and play
With mine and other innocents
Just any time of day.
She let him chase their nasty dog,
A-whooping as he ran;
She let him come and gush his lunch
About my garbage can.
O how I yearn to give that jade
A portion of my mind—
Exposing all the neighborhood!
I'll have the creature fined!
She hasn't called a doctor yet,
Lest he put up a sign
To tell the world what's going on
And protect your child and mine.

ONE WEEK LATER

Poor Betty Jane! My darling lamb
Has been indoors a week,
And the bloom I'd worked so hard to gain
Has vanished from her cheek.
So I'll just take her to the zoo
To see her favorite bear;
For the doctors say that whooping cough
Is aided by fresh air.
We'll sit apart while on the bus,
And none shall ever know.
It is not right that Betty Jane
Should be imprisoned so!
I'll rub her chest and wrap her up
And send her out to play.
Let neighbor children passing by
Go round some other way.
Not much cared they when they did whoop
And vomit on the green;
So why should Betty Jane and I
Endure the quarantine?

MORAL

What your child does to my child
Is something—is that plain?
What my child does to your child
Is something else again. —P. J. W.

HEALTH and the SCHOOL

Edited by J. Mace Andress, Ph.D., 67 Clyde Street, Newtonville, Mass.

School Examinations and Healthy Living

ACADEMIC examinations and healthy living may sound so incongruous that the mere suggestion of such a combination is enough to make the reader laugh or at least smile with good-natured contempt. Anybody who knows anything about teachers and children knows that examinations are the *bête noir* of their lives. They are always considered the most disagreeable features of school life. Everybody hates them, and yet the evils for which they are responsible are still allowed to linger. Little is done to correct or prevent the physical and mental strain that they cause.

Health in Examination Periods

In high schools and colleges the examination period is a time when most students forget nearly all the health habits they have ever acquired. It is then that pupils try to cram facts under such great pressure that they get little sleep or exercise and pay almost no attention to their diet. The few studies that have been made in connection with the hygiene of examinations show that there is a general tendency on the part of students to lose weight, to catch cold and in general to fall below par physically.

The mental strain of examinations is often severe. In upper grades and higher schools the passing of a subject often depends solely on the examination mark. The student is confronted with the idea of failure. To the sensitive personality this thought is especially terrifying. To fail means perhaps that one must repeat the subject, spend another year in order to graduate, be severely reprimanded by one's parents and be disgraced in the eyes of one's friends and teachers. It is not strange that the strain of school life today leads to nervous breakdowns and that it is not unusual to read of student suicides during the examination period.

Psychologists and mental hygienists today are emphasizing the value of wholesome attitudes. Most of the facts one learns are forgotten, but attitudes always remain. The examination is responsible for vicious attitudes. The mental indigestion caused by the attempt of teachers to pour vast quantities of information into student craniums is deplorable. The demands made on the student are such as to threaten his own health and happiness and his whole future attitude toward work. Sometimes they lead him to bluff or cheat, and often the thing which he learns in school he hates afterward bitterly for the rest of his life.

It would be difficult to say a good word for the examination system as it is now carried out. It is true that some students regard an examination as an inspiring challenge and they come through unscathed. It depends on the individual; quite often the health of some bright pupils is seriously affected because of their emotional make-up.

Fortunately there is a tendency to deal with examination problems, although little has been done in the upper schools. In some schools, pupils are promoted on the judgment of the teacher. In others job allotments must be done; hence the learner knows just how fast he is progressing. Various plans whereby the pupil may examine himself from time to time are in vogue. Such schemes are not usually found above the junior high school.

It is obvious that if examinations are to remain in our high schools and colleges, much can be done to make them more healthful and worth while. For example, examination may be given so frequently that there can be no piling up of work and the pupils do not get a distaste for the examination and the facts learned. The pupil's mark should depend on other work than the examination. Principals may so supervise their teachers that pupils may not be held responsible for too many things within a brief space of time. It is quite common for some teachers to require two or three times as much work as others. The evils of the examination system should stimulate research by educators, so as to promote healthful living. For what does it profit a student if he gains the whole world of facts and yet loses his health?

Specific Grading Is Inaccurate

In the lower grades formal examinations and marking by percentages have practically disappeared and now there is a marked tendency for letters to disappear in marking. One reason is that neither pupils nor teachers appreciate the significance of A, B or C except in a general way. Investigations show that such marks are not accurate, that they depend on the mood and digestion of the teachers who do the marking and that individual teachers will mark the same work differently.

One of the chief criticisms of a report card merely rating the academic work of the pupil is its inadequacy to inform pupils and parents of the facts about the pupil's life that are most worth while. School success is something more than academic standing; schools should teach children how to live.

As an example of one of the best of the newer types of report cards, the attention of the reader is called to the reproduction here of the essential parts of a report card used in one of the public schools of Hartford, Conn. An excellent letter to the parents is included in the original report. It calls attention to habits, attitudes and condition of

health and general academic standing, so that fathers and mothers may get a fairly complete picture of the child's adjustment or lack of adjustment to the program of the school. The letter follows:

To the Parents:—You will find emphasized on this card the habits and attitudes which the school considers worth while in the elementary grades. We are especially concerned with the all around development of the child.

If the traits listed are not checked you may rest assured that they are satisfactory. If a subject is listed as needing special attention look for traits checked as unsatisfactory, for the causes. This card is arranged to give you as definite a picture as possible of the child's complete adjustment or lack of it to the school program.

Health and health habits have much to do with the quality of your child's work. Good food, rest, exercise, cleanliness and plenty of fresh air are essential.

The principal and teachers welcome your visits for conferences and observation. Close cooperation between home and school will do much to overcome difficulties.

Sincerely yours,
(Signed)
PRINCIPAL.

Approved:
(Signed)
SUPT. OF SCHOOLS.

The report card that merely stresses knowledge gained in academic studies with no consideration of attitudes is far behind the times. Citizenship, health and habits are given noticeable attention in a public school of Hartford, Conn. Parents in this way get a picture of the child's adjustment to school life.

TEACHING HEALTH

(In this column will be published each month concrete examples of good health teaching. Teachers are invited to send in contributions not exceeding 600 words and preferably less to the editor of this department. Illustrations of the actual work of children will be welcomed. Contributions accepted will be paid for but no manuscripts will be returned.)

WORKING TOGETHER WORKS MAGIC

FIVE years ago, the new teacher for the Phillips School in Menominee county, Michigan, gazed in dismay on the scene of her future labors. Perched in the center of a barren, lonesome hill was the little school house with the usual rural accessories: unsightly toilets, woodshed and pump. Around the hill swept the highway over which wandered stray cows, pigs, dogs and horses. And some of them, to "see what they could see," had come up the hill and trampled the school yard to a mud-hole. This was the place to which the new teacher had come, eager to make school work so interesting and attractive that her pupils would rather attend than remain at home!

It had been a "problem school," too. The twenty-two boys and five girls had "made things interesting" for former teachers. But though this teacher is little—she looks like one of her own eighth graders—she has had no such trouble as other teachers experienced. She impresses one as a loved leader in a group of happily interested boys and girls.

At her first attempt at building a fire that fall, she discovered that the heating plant was so defective as to constitute a fire menace. She immediately called a meeting of the parents, told them of the dangers of sending their children to a school in which such hazards existed and urged them to present the matter to the school board. After heated argument it was decided to install a new furnace, and preparations were immediately made for excavating the basement. Today the heating system in this school is one of the best to be found in the one-room rural school buildings in Michigan.

As the wood-shed was no longer necessary, it was decided to sell it and use the money for a fence around the school grounds, but it took three years for the board actually to carry out the teacher's suggestion about that fence. When at last the cedar posts were placed, the children took matters in their own hands. The boys strung the wire fence, and they, the girls and the teacher carved the tops of the posts, then painted the posts white and the tops a cedar green. After a turnstile had been installed at the gate to keep out the four-legged visitors, the playground was ready for equipment and for trees, flowers and a vegetable garden.

Spruce and balsam trees were donated by the parents, and the pupils planted them outside the front fence; around the foot of each tree is a circle of whitewashed stones. Then the boys graded the ground to a slope and inlaid bricks in the sod to spell "Phillips School." In the school yard, flower gardens were laid out at the front, side and back of the building. Hollyhocks, golden glow, tiger lilies and grape vines were chosen, because they last indefinitely.

The soil under the old wood-shed was declared "just the stuff" for a thrifty vegetable garden, and here the pupils planted a variety of vegetables for the use of the Hot Lunch Club. Some of these, however, were never used hot; according to the teacher, they were sampled too generously by the children at recess times.

The boys in the Handicraft Club made two teeter-totters that are also used as merry-go-rounds on the playground. Complete equipment for baseball was won as a prize for high standing in Boys and Girls Club work. Other equipment for outdoor recreation was purchased with money raised by socials and other school programs. More than $200 has been raised by such means during the last four years. This has been used also to beautify the inside of the building and for purchasing kindergarten chairs, window shades, pictures, a wall clock, handicraft tools and a cot.

For the past four years this school has had a Hot Lunch Club during the winter months. The handicraft boys again came to the rescue in transforming a small cloak-room into a kitchenette. This nook has two small windows and a door that leads directly into the school room; thus it makes a splendid place in which to cook and serve. The boys made the supply shelves and a drop-leaf table from discarded recitation benches, and they put linoleum on the floor to make the room easy to clean. The girls in the Sewing Club made curtains for the windows, and tacked oil cloth on the shelves and tables. Cooking equipment for the kitchen was purchased from the school fund. The Handicraft Club also repairs seats in the school, takes care of the shades and other things that get out of order, besides washing the walls.

The twenty-four pupils who are enrolled in the Hot Lunch Club divide the responsibility of bringing food, five pupils contributing each day of the school week. The cooking is all done by the pupils, the boys taking as much interest in it as the girls. Each child over 10 years of age has the chance to be a cook and a "chow boy," in his turn. The pupils prepare such dishes as baked potatoes, cream soups, bean and pea soup, and various kinds of stew.

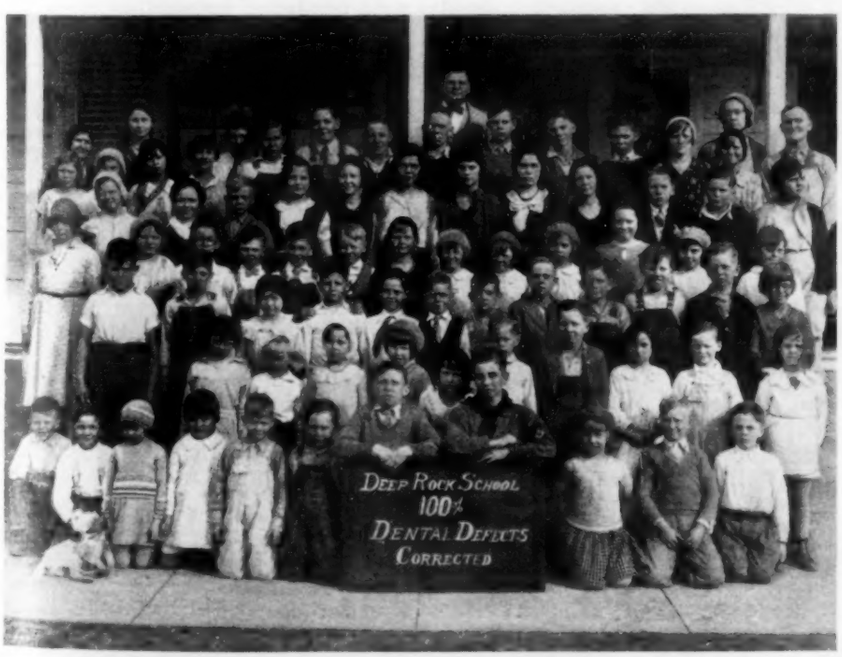
Lunch time finds the children lined up by grades, the smaller ones first, to wash their hands. One child takes charge of the soap "squirter," another of the watering can and still another of the towels, so the cleansing process is completed in a short time. After a short prayer is repeated, the children are ready for their hot lunch given to them as they pass the kitchen door. The cooks then put water on to heat for the dishwashing, and eat their own lunch. After each meal the dishes are washed and scalded and each cup is hung on the hook over which appears the owner's name. In this way each child is sure of getting his own cup at each meal.

The Hot Lunch posters of the school have won two first prizes and one second prize in the county contest. This year they were given first place at the state fair, thereby winning an award of $12. That the students may have additional playground equipment, this school has entered the health contest that has been inaugurated by the Children's Fund of Michigan.

In cold weather these children enjoy almost every kind of winter sport, including skiing, sliding and tobogganing. As the school is surrounded by rolling hills, there are ideal places for all sorts of fun, and motorists can see the children, from the tiniest tot to the oldest, with the teacher, flying down the slides, or in groups of five or six on the toboggan, plunging hilariously into a snow drift.

"These are queer activities for a school," may be the protest of some of the older generation, who do not realize that such fun works off superfluous energy and sends one back to the schoolroom with greater zest for the task of "reading, writing and arithmetic."

BERTHA STREETER,
Detroit, Mich.



These children, pupils of the Deep Rock school, near Cushing, Okla., smilingly boast of 100 per cent, not only in dental defects corrected but also in immunization against typhoid and diphtheria and in milk drinking.

SCHOOL SPIRIT AND THE DENTIST

WE WANT a touchdown—rah! rah! rah! Any boy will go out on the football field ready to have an arm or a leg broken if necessary to win that game when "ye old school spirit" conquers all fear of physical pain.

We have instilled the same spirit in our health education programs, particularly with reference to dental corrections. Many children have a morbid fear of the dentist—a fear that is not so often expressed for the family physician. So our first plan was to create an attitude of mind that reflected not only willingness on the part of the child to go to the dentist, but enthusiasm as well.

Of course we used the competitive plan of offering prizes to the school scoring highest in health achievements. In addition we gave extra points to each child who gained until he weighed what he should, or was in the safety zone. We gave five points to each child who had a defect corrected—a tooth filled, fissure treated, crown put on, gum treatment or orthodontic or dental orthopedic work begun.

Every student who went into the doctor's office with a smile and came out with a smile and said "Thank you" was to receive a mark "A," according to the health program rules. Each child who received "A" for "good citizenship in the dentist's chair" was to receive five extra points. How the points did pile up! One little fellow not quite 6 years of age had eight temporary teeth filled and still came out with a smile. The dentist believed that he deserved a double "A." This little boy had come 20 miles, over poor roads, in a truck with other children from his school.

The picture bearing the legend, "100 per cent dental defects corrected," was taken at the Deep Rock school, near Cushing, Okla., prize winner for Payne County. The interesting projects of this school included, among others: 100 per cent immunization against typhoid and diphtheria; 100 per cent milk drinking campaign (resulting in 98 per cent of the children weighing what they should), and 100 per cent dental defects corrected.

All the Deep Rock School children boasted of the achievement of being good citizens in the dentist's chair, except one whose mother accompanied her. One little boy climbed bravely up in the chair and said, "Look 'em over good, Doc, and fix all of 'em that need it 'cause we sure need the points to win." Another little boy became

so enthusiastic that he said, "I hope you will find some holes in my teeth, so I can win some points." Our program could be divided into three main objectives as follows:

1. Health habit training. One might include here, milk drinking campaigns, hand washing campaigns and clean teeth campaigns.

2. Improving environmental health conditions surrounding the child at school, with an assurance that much will carry into the home environment. Included here are such things as urging the building of sanitary toilets and sanitary drinking fountains, and the installation of proper ventilating facilities.

3. Education for the correction of defects. A health education program should not include diagnoses but should make the following recommendation: "Go to your family physician and dentist; let them make a diagnosis, and follow their advice."

BERTHA M. ASHBY,
Oklahoma City, Okla.

NEW HEALTH BOOKS AND TEACHERS' MATERIALS

THERE was a time, no more than two or three decades ago, when it was thought that we knew something definite about psychology. Our knowledge included the laws of association that had come down from Aristotle and, much more recently, the laws of learning by Thorndike. Today there is chaos in the field. This confusion has been made quite clear by Professor Ragsdale in his readable volume "Modern Psychologies and Education."[1] As one reads his book it becomes increasingly clear that there is a wide difference among psychologists as to what the field of this science is and what practical conclusions the modern educator may draw from this study. The author describes briefly and clearly some of the outstanding differences between the various schools of psychology, such as structuralism, behaviorism and Freudianism. The book is weakest, however, at the point at which it should be strongest. The educator wants to know how psychology may help him in his work. Too frequently Professor Ragsdale leaves his reader suspended in mid-air. For example, after reading the chapter on learning, one gets a critical survey of the theories of learning but nothing definite as to what the procedure of the teacher may be. One feels that the newer psychologies are a mass or a mess of verbiage and that to date they have little more than an academic interest in human living.

No one can read Professor Ragsdale's book, however, without getting a broader view of the subject, and if the reader is an advanced student he may feel impelled to formulate for himself practical applications of psychology. The book is a distinct contribution to professional literature.

DR. HILLIARD'S previous contributions in the field of biology and public health lead one to expect that his new book "The Prevention of Disease in the Community"[2] will be highly acceptable for school use. The reader will not be disappointed. Personal hygiene, as Dr. Hilliard points out, should be of primary consideration, but personal hygiene is involved in the larger health problems of the community. The college student particularly should be interested in a wider health outlook. For that reason Dr. Hilliard has written this book for college students primarily. It covers the field in a comprehensive fashion so that the student may get at least the rudiments of preventive medicine and sanitary science. Infection, immunity and preventive medical measures are treated in simple direct language that the student can understand.

Although this is an admirable textbook for college students it is not too difficult for high school students to use for reference.

THERE is an old saying that blood will tell. We have usually assumed that there are clear-cut family and racial differences. In a popular sense, races have been differentiated by certain dominant characteristics. We think of the Frenchman as emotional, the Dutchman as phlegmatic and the Englishman as lacking a sense of humor. Primitive man is ordinarily accredited with having better eyes and ears than civilized man. These dominant racial characteristics have usually been regarded as innate. Professor Garth tells us in his new book, "Race Psychology"[3] that his first investigations in this field "were accompanied by a silent conviction that he would find clear-cut distinctions in mental processes." The difficulties that the investigator meets are numerous and so confusing that they tend to befog the issues. Language differences, habits of thought and action, group ideals and attitudes are liable to be misleading.

In conclusion the writer finds that races are mutable and not permanent and that most of the dissimilarities that the observer encounters are due to differences in environment and in training. For example, the investigations show that "all races of men hear equally well, see equally well and are equally sensitive to pain." The study of this book would do much to promote a friendly feeling among the various peoples and is especially to be recommended for all afflicted with the complex of race superiority and race prejudice.

THE college has been so long wedded to the idea of general culture that it is refreshing to pick up this comprehensive plan for the improvement of the health of college students. It would be difficult to estimate the number of young men and women who have broken down in the pursuit of classic knowledge. One is tempted to ask "What is culture worth if it is to be gained at such a cost?" Fortunately college leaders are awakening to the importance of health education. Among the admirable recommendations in the report of the "Proceedings of the National Conference on College Hygiene"[4] is this: "Every college should include in its hygiene program a course or courses of informational hygiene (health reading) that will help the college satisfy its health obligations and educational purposes." The report, however, is not merely concerned with academic instruction in hygiene, which is an innovation in college instruction, but with the broader problems of the admission of students, the responsibility of health instruction and disease prevention, social hygiene, the preparation of teachers of hygiene and the outstanding problems connected with the health of college students.

"PLANNING Lunches for School Children"[5] is a real problem in which teachers and schools need real help. This comprehensive pamphlet contains much worthwhile information about foods, condensed within little space. There are suggestions for children who take their lunch boxes to school and for those who go home for lunch. Many excellent recipes, including fourteen suggestions for sandwich fillings, will gladden the hearts of mothers who send their children to school daily with lunches.

1. By Ragsdale, Clarence E. Pp. 399. New York: The Macmillan Company, 1932.

2. By Hilliard, Curtis M. Price, $1.75. Pp. 193. New York: McGraw-Hill Book Company, 1931.

3. By Garth, Thomas Russell. Price, $2.50. Pp. 260. New York: McGraw-Hill Book Company, 1931.

4. Pp. 88. New York: National Tuberculosis Association, 1931.

5. Pp. 11. Chicago: Evaporated Milk Association.

New Books on Health

TABLES OF FOOD VALUES

By Alice V. Bradley. Cloth. Price, $2. Pp. 128. Peoria, Ill.: The Manual Arts Press, 1931.

NOWADAYS when every one is beginning to learn something about diet and when most people are trying to eat intelligently, it is convenient to have available tables which supply all the necessary information concerning common foods and the food values of ordinary servings. This is exactly the information that is supplied in this convenient book. Food substances are classified according to their general type, and information as to the values of average portions is then given concerning each substance. The weight of the average measure, the amount of calories supplied, the values in proteins, fats, carbohydrates, calcium, phosphorus, iron and vitamin values, and the reaction, whether acid or basic, are given for each substance. Reference is so simple that users will find the book exceedingly convenient. Furthermore, the values stated are based on numerous and reliable sources of investigation to which due credit is given in the introduction of the book.

MORRIS FISHBEIN, M.D.

EXERCISE AND ITS PHYSIOLOGY

By Adrian Gordon Gould, Ph.B., M.D., and Joseph A. Dye, A.B., Ph.D. Cloth. Price, $3. Pp. 433, with 61 illustrations. New York: A. S. Barnes & Co., Inc., 1932.

A VAST amount of research in the physiology of muscles and of nerves, some of which brought Nobel prizes to several of the investigators, has been accumulated in the last ten years. The purpose of the authors of this volume has been to present a digested compilation of the principal facts and to present them in such form that they may be available to any intelligent reader. The writers have done their work well. They make a continuous account beginning with the mechanisms of movement, studying the chemical and physical changes that occur in the tissues involved, considering the origin of fatigue and the nature of recovery from fatigue, and paying special attention to the blood, the circulation and the respiration in their relationship to muscular effort. If every physical trainer had the information that this book provides on physical training, on the nature of the so-called second wind and on the relationship of the body generally to the muscular effort and nerve control, a vast amount of distress, pain and even disease would be saved to the athletes for whom these trainers are responsible. The book merits most careful study and should be available to physiologists, to teachers and to physicians throughout the country.

M. F.

CANCER: WHAT EVERY ONE SHOULD KNOW ABOUT IT

By James A. Tobey, Dr.P.H. With introductions by Joseph Colt Bloodgood, M.D., and H. L. Mencken. Cloth. Price, $3. Pp. 313, with 17 illustrations. New York: Alfred A. Knopf, 1932.

DR. TOBEY has been a frequent contributor to the pages of HYGEIA. He writes easily and accurately. In this book he has collected a vast amount of information about cancer, including a consideration of its nature, its history, the story of famous persons who have had cancer, the use of radium and roentgen rays, the various types of research that are being undertaken, and the institutions in which research is carried on. He also discusses false cancer cures and advises as to the choice of a physician. The concluding chapter of the book discusses the anticancer movement and includes a collection of maxims and aphorisms that are inspiring and educational. The book should be widely read not only for the light that it throws on the subject but also because it may do much to dispel the dread of cancer which far too frequently drives patients into the hands of charlatans.

M. F.

SUMMER FUN

By J. Mace Andress and Annie Turner Andress, with the assistance of Julia E. Dickson. Cloth. Price, 64 cents. Pp. 138. Illustrated. Boston: Ginn & Co., 1932.

THIS is the eighth book in the Andress series, planned to combine health lessons with general education. The book is prepared as a supplementary reader for the second half of the first grade. It is a model in its field and may be highly recommended in health instruction.

M. F.

THE SCHOOL DORMITORY: ADMINISTRATIVE AND EDUCATIONAL PROBLEMS

By Carrie Alberta Lyford. Cloth. Price, $2. Pp. 200. Boston: M. Barrows & Co., 1932.

THIS volume should be primarily of interest to those who are called on to direct and administer dormitories in various schools and institutions. Communal life differs from life in a home or in a hotel where the individual himself is likely to be responsible for the care of his environment, for the choice of his diet and for his clothing. The material in this book has been selected from numerous authoritative sources. There are special chapters on the management of the dormitory, the dress of those living in the dormitory, the furnishings in the institution, the combating of pests, the handling of the laundry, the control of the kitchen from the marketing to the serving of the food, and finally two chapters which consider the dormitory first as a training school and second as a home. The book is presented in a nicely written, simple manner and should prove valuable to those who need it, since there does not seem to be any similar publication in the field that it concerns.

M. F.

TESTS AND MEASUREMENTS: A WORKBOOK IN HEALTH AND PHYSICAL EDUCATION

By Irene Palmer, M.A. Cloth. Price, $2. Pp. 143, with numerous tables. New York: A. S. Barnes & Co., Inc., 1932.

IN AN age of standardization there has developed great need for compilation and comparisons of available standards. In this volume the author provides a list of various forms of measurement used in educational work, a consideration of the basis for such measurements and, finally, twenty chapters listing all sorts of tests for determining health, physical fitness, physical capacity, motor ability, achievement, knowledge, attitudes and indeed every factor in which educators may be interested. Each chapter is supplemented by assignments of reading and a selected bibliography for collateral reading.

M. F.

QUESTIONS and ANSWERS

Cross Eye and Nearsightedness

To the Editor:—Can cross eye be corrected in young children and in older children by the use of eye glasses? If so, is an optometrist competent to do this work? After the child has been fitted with glasses for nearsightedness should he be able to read as well without the glasses as with them? When an eye specialist is not available, do you advise taking children to an optometrist?

N. W. T., California.

Answer.—In a large percentage of cases cross eye can be corrected by the use of properly fitted eyeglasses. Treatment should be instituted as soon as possible after the third year. Since atropine must be used in the study of all such cases, an optometrist is not competent to undertake the treatment.

In simple myopia, or nearsightedness, the child should be able to read as well with glasses as without them, but nearsighted children must not read without glasses.

It is most important to have the eyes of any person, especially a young person, examined by an ophthalmologist (oculist) who has had general training in all the branches of medicine as well as special training in the eye. Almost any physician can make a rough test of the vision and determine whether the individual has such eye defects as require the attention of an oculist.

Perspiration

To the Editor:—May I ask what remedy there is, if any, for evil smelling perspiration? When I perspire there is a foul odor from the body. The odor seems to come from the buttocks. Bathing does not seem to remedy the matter as the parts still perspire.

A. K., Nebraska.

Answer.—The complaint described corresponds to the condition known as bromidrosis, or offensive perspiration, which may or may not be associated with excessive perspiration. It is confined often to regions in which sweat is excreted in excess and hindered in its ready evaporation, as in the deeper skin folds or clefts. The folds of the anogenital region often are the site of this condition, and there, as also in the armpits, a large and special type of sweat gland (apocrine) is present.

The disorder is often obstinate in yielding to treatment, which must be carried out persistently. The parts should be washed twice a day with soap and warm water, dried thoroughly, then sponged liberally with a solution of potassium permanganate in water (1 part in 2,500) and, when this has dried, dusted with powdered boric acid. Light weight underwear is to be worn and changed daily.

French Peeling for Acne

To the Editor:—I have had acne on my face, beginning at about 14 years of age. There is now scarcely any activity of the acne, but it has left my face considerably scarred. There are people in this city who have "M.D." attached to their names and claim to be physicians and plastic surgeons, who say that they can remove these scars by French peeling. Any advice you can give me in regard to the removal of scars by French peels will be appreciated. Would there be harmful after-effects? If successful, would the results be permanent? Would you advise it for the removal of acne scars, provided the operator is skilful? I cannot successfully use rouge on account of its settling in these pits. I am a stenographer, dependent on my work for a living, and I feel that the condition of my skin is a definite hindrance, both in business and socially.

B. R., Texas.

Answer.—There is no treatment that will remove or improve the appearance of the scars left by bad acne, and it is unwise and a waste of money to attempt any such process. As time goes on, the little scars show less and less but the skin never becomes entirely smooth. The trouble experienced in the use of cosmetics is an annoyance, but it cannot be helped.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a two-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Hearing Devices

To the Editor:—A device known as a teletactor is expected by its inventor, Dr. Robert H. Gault of Northwestern University, to enable the user to catch sound waves on the fingers, and with training to interpret them accurately. A small receiver or vibrator is held in the hand of the deaf person and connected with a microphone through a battery and amplifier. Through this apparatus the energy of speech produces a tingling sensation of the skin. Is this a practical aid to the deafened?

A. V., Vermont.

Answer.—The apparatus devised by Professor Gault is quite simple in its construction and is useful, as shown by the fact that by means of it some patients can to a certain extent understand speech. It requires considerable training until the individual is able to interpret the vibrations that are transmitted from the diaphragm of the apparatus to the fingers in order to apprehend the speech that is directed toward the apparatus. This is certainly of great value in a laboratory or in small groups, but it has not yet been demonstrated that as a general aid to the hard of hearing the method is practical. After much training, the individuals using the teletactor can as a rule understand various sentences but we do not know whether it has as yet been shown that for use in rooms in which a number of persons are speaking or in large assemblies in which a discourse is being delivered, the appliance has been of great value.

The acquisition of lip reading enables the listeners to observe the movements of the lips of the speakers and has proved of greater value thus far and of greater practical utility than any appliance whereby tactile sense of the fingers is being employed.

In the training of the totally deaf or of those who are almost so (and this applies especially to young children), the development of the tactile sense is of great value, as thereby the deafened or hard of hearing acquire the sense of rhythm. Perhaps the further development of an instrument like the teletactor may in future lead to more efficient training of the deaf.

Daily at the doctor's right hand in the New England Medical Center

Boston Floating Hospital, operated for years on a boat in Boston Harbor, has given medical care to 28,000 children during 37 years. Hexylresorcinol Solution S.T. 37, safe and powerful, is used here daily by the doctors to whom the little lives are entrusted.

Five hundred children and grown-ups visit the Boston Dispensary *each day*. In this practical laboratory Tufts College medical students learn to diagnose and treat disease . . . Hexylresorcinol Solution S. T. 37 is used for nose and throat cases in the Children's Division, the Tumor Clinic and Surgery.

THREE great institutions closely allied with the earliest medical history of Boston comprise the united, splendidly equipped New England Medical Center.

The Boston Dispensary. The Boston Floating Hospital. And Tufts College Medical School, recognized for thorough medical training, and its recent special emphasis on the requirements of the "family doctor."

And in two great departments of this famous new Center of medicine—whose influence reaches out to all New England . . . for nose and throat cases of the Children's Division, in the Tumor Clinic and Surgery, the new antiseptic, Hexylresorcinol Solution S. T. 37 (1:1000), is in daily use!

For the active ingredient of Hexylresorcinol Solution S. T. 37 has germicidal strength 70 times more powerful than carbolic acid! Yet, astonishingly, this Solution is so harmless that a young baby can accidentally swallow it with perfect safety!

Powerful enough for Hospital Use . . .
Safe enough for Home Use

After years of experimentation in a great university's laboratories, this new kind of antiseptic was developed. Most powerful, yet non-poisonous. Gentle in action. Pleasant to the taste. As safe for the fumbling little hands of a child as for the skilled ones of a brilliant surgeon. This is Hexylresorcinol Solution S. T. 37.

All claims made for Hexylresorcinol Solution S. T. 37 are in accord with those submitted to and accepted by the American Medical Association's Council on Pharmacy and Chemistry.

Use this safe, powerful antiseptic freely in your own home. Gargle with it at the first sign of a cold or whenever the throat is irritated. For every cut and scratch, too, which through neglect or unwise treatment may develop into serious infection, turn at once to Hexylresorcinol Solution S. T. 37.

Buy a bottle today. Made by a pharmaceutical house of recognized high standing with the medical profession. At all druggists in the United States and Canada—50¢ and $1.25.

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Fight— to a Finish!

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PHYSICIANS, nurses and public health workers are fighting brilliantly, doggedly and untiringly to conquer tuberculosis. They have cut the deathrate two-thirds in the past thirty years. But because the deathrate has steadily declined, many people are being lulled into a false sense of security, making the fight more difficult.

Tuberculosis is still the chief cause of death of persons between the ages of fifteen and forty-five in this country. Last year, in the United States, the disease cost about 86,000 lives.

Not merely the underfed and undernourished are stricken. Many who have every advantage that money and care can provide, unexpectedly develop active tuberculosis.

There is a modern defense against mankind's old enemy, once the most destructive of all diseases. By means of annual physical examinations which include X-ray and other tests for children, and fluoroscopic or X-ray examinations for older persons, the presence of tuberculosis can be detected before serious damage has been done to lungs, bones or other tissues.

Failing such regular health examinations—for old and young—tuberculosis will continue to attack unwary and unsuspecting victims.

Tuberculosis doesn't "just happen." Those in close contact with tuberculosis may contract the disease if not guarded against infection. Children are especially susceptible.

Early recognition is the all-important element in preventing the spread of tuberculosis in a family. Immediately after a person is discovered to have the disease, every member of his household should have a complete examination. Clinics are usually available if a private physician cannot be afforded. By prompt measures, it is often possible to find other cases of the disease in such early stages that a rapid and complete cure may be effected.

When each family gives this most valuable cooperation and when each doctor promptly searches for and reports all active cases, tuberculosis will be well on the way to extinction.

Victory can be won in this splendid war—*but not until all take part in this fight to a finish.*

METROPOLITAN LIFE INSURANCE COMPANY

FREDERICK H. ECKER, PRESIDENT ~ ONE MADISON AVENUE, NEW YORK, N.Y.

Detection of Pregnancy in Nursing Mother

To the Editor:—How can one tell whether or not a mother is pregnant while nursing a baby, if she does not menstruate? Give symptoms. Will x-rays reveal whether or not the mother is pregnant if she is six or eight weeks along?

G. B. C., Oklahoma.

Answer.—The obvious method of determining the presence of pregnancy in the nursing mother is by examination. The nonpregnant uterus under conditions of nursing is frequently even smaller than normal, this shrinkage being known as hyperinvolution. If the examiner finds that the uterus, instead of being normal or smaller than normal and firm, presents the usual manifestations of early pregnancy, such as globular enlargement, softening throughout and especially at the junction of the uterus and the cervix, periods of contraction and an accompanying blueness of the lining of the vagina, pregnancy must be established. If, at a subsequent examination from ten days to two weeks later, increasing growth of the uterus can be determined, the diagnosis of pregnancy is probable.

The nursing mother who becomes pregnant is likely not only to experience the usual symptoms of pregnancy such as nausea with or without vomiting, increased frequency of urination and a tendency toward constipation, but also to observe that she is losing her milk supply.

X-ray examination without special aids does not reveal the skeleton of a developing baby until it is approximately 4 months old. It is possible, however, by inflating the abdomen with carbon dioxide or distending the rectum and bladder with air to reveal pregnancy by x-rays as early as from eight to ten weeks. This procedure must be expertly carried out, and the interpretation of the x-ray plates should be secondary to direct examination of the uterus.

Digestibility of Lettuce

To the Editor:—I have recently heard that lettuce remains in the stomach from two to three days before it is digested. Is this statement true? What is the value of lettuce in the diet?

G. A., Ohio.

Answer.—Lettuce is quite as digestible as other leafy vegetables and does not remain in the stomach for an excessive length of time. Like other similar vegetables, it furnishes valuable vitamins.

Variations in Pupilary Size

To the Editor:—What reason other than that associated with venereal disease is there for a difference in the size of the pupils of the eyes? The pupils in question are usually of the same size, but at times one is distinctly larger than the other. Tests show that the blood is pure.

R. E. W., New York.

Answer.—When the pupils differ in size, but react when light is thrown in the eyes and when close objects are observed, the condition is not significant of any disease and may occur normally, especially in young adults. The pupil is only a hole made by the iris, or colored curtain of the eye. The iris has two muscles. One, the sphincter iridis, forming the border of the pupil, is circular, and when it contracts the pupil is small. The other muscle spreads from the base of the iris to the pupil and is called the dilator. The circular muscle receives its nerve supply from a center in the brain, and this center is stimulated by light thrown in the eye and carried to it by the optic nerve, or nerve of vision. It is also stimulated when close objects are examined. The dilator muscle is supplied from the sympathetic system, located at the base of the brain and the upper part of the spinal cord.

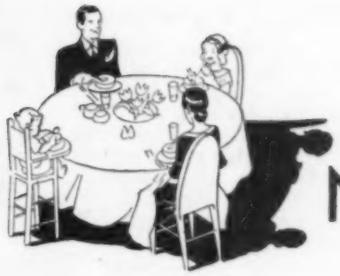
In youth, the sympathetic system is extremely sensitive, especially in nervous, excitable children. Any emotion such as fear, excitement or anger may stimulate this system and cause dilatation more pronounced at times in one eye. Any irritation from enlarged glands, infected tonsils or disease of the upper part of the lung on one side may stimulate the center to cause an enlarged pupil on the same side.

Vaccines

To the Editor:—Are vaccines being successfully used for diseases caused by acute streptococcic infection, such as adenitis, tonsillitis, and diseases of a similar infectious nature? If so, are there any possible harmful effects to the system from the use of such vaccines?

H. W. B., Iowa.

Answer.—Opinions in the profession differ as to the efficacy of vaccines against streptococcus infection. Many excellent physicians believe that they have seen distinctly good results from their use; other equally competent and experienced men have tried them without being convinced of their value. When carefully prepared, they probably do no harm; often, certainly, they seem to be followed by no good results.



Breakfast NEWS

for Mothers! Wheatena

cooked with half milk and half water solves the problem of getting more milk

into the family diet. And it's extra delicious.

Wheatena — cooked in half milk and half water — combines two great natural foods — wheat and milk —in one delicious dish. Wheatena is developed from the entire wheat kernel — roasted and toasted. Doctors have used and recommended it for more than 50 years. It's the idea all-family breakfast cereal.

4 delicious servings FREE

We want you to taste the delicious, nut-like flavor of this wonderful wheat cereal—Wheatena. Please mail this coupon and we'll send you enough Wheatena for four generous servings.

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The Wheatena Corporation, Wheatenaville, Rahway, N. J.

Listen to "RAISING JUNIOR"—NBC Blue Network—every evening except Wednesday—6 o'clock (E.S.T.). NBC Gold Network—every evening except Monday—7 o'clock (P.T.).

Teeth

To the Editor:—I am seeking your advice on a matter concerning my twin daughters. As babies and up to their present age, 8 years, they have enjoyed fair health and have developed in a normal manner. Their first teeth were good, but their second teeth are poor, the enamel covering only a small portion beyond the gums, the dentine being exposed over the remainder of the tooth. Up to the present time they have four upper teeth, four lower centrals and the six molars, all affected in a like manner. They have always had wholesome nourishing foods, not many sweets, plenty of milk and vegetables, and have been given cod liver oil frequently since they were babies and regularly for the past year with no noticeable results. They have had plenty of sunshine the last summer.

R. M., Wisconsin.

Answer.—The reason why the first teeth were good is that these teeth had begun formation before birth. The enamel of the second teeth, which are described as defective, began to form in the jaws about the second year after birth, and at that time there was some serious disturbance of nutrition which interfered with the proper building of the enamel. It may have been an illness, but whatever the cause one cannot restore the enamel that has been lost. The best that can be done is to institute the correct diet now. The inquirer is following an acceptable diet at the present time, and, as other teeth come in, the enamel will be better formed.

Inability to Concentrate

To the Editor:—I find that when I am reading or studying I cannot concentrate; my mind invariably wanders off into space. What do you think is the cause of this, and what the remedy? I myself believe that the trouble is due to the fact that at school I never learned to study, and as a result I find that now I cannot concentrate, hard as I try. This is really a serious matter to me and a distinct handicap. Is there any special subject that you can recommend that is helpful in teaching one the art of concentration?

H. M., Georgia.

Answer.—Inability to concentrate is not an uncommon complaint. We do not know of any remedy except training that will correct the trouble. The inquirer should consult a physician and have himself examined in order to make sure that no organic trouble is present and to determine whether there is any plan of treatment that would be helpful.

"MONEY ?

Where's that money

I GAVE YOU *yesterday?"*

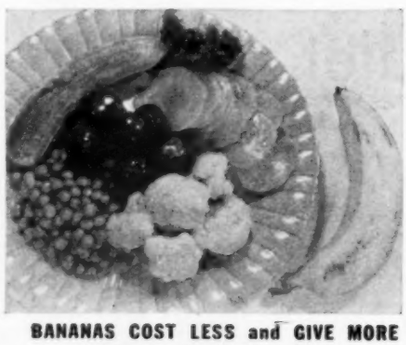
THIS YEAR husbands are apt to be touchy about money. So here's a tip. Use *bananas* as an *early vegetable.* Sautéed or baked bananas give you a spring luxury in everything but price!

Use bananas in a meatless dinner. There is a natural "meatiness," a full-bodied, tender-textured heartiness about the banana that's wonderfully satisfying.

Bananas, you know, boast the very same vitamins and minerals, the same succulence as expensive early greenstuffs. They're one of nature's happiest weapons against any tendency toward an acid condition.... And imagine! A few cents per serving pays the bill! Putting bananas on your *vegetable* list *today?*

Bananas — shining light on the Vegetable Plate!

Here is a sautéed banana with green peas, carrots, cauliflower, and buttered beets. To sauté bananas, peel, sprinkle with lemon juice and roll in flour. Use small amount of fat in hot frying pan. . If you prefer, bake bananas in the skin—just as you bake potatoes—10 to 15 minutes in moderate oven.



BANANAS COST LESS and GIVE MORE than most OTHER FOODS

The high food value and easy digestibility of the banana have been recognized by the Committee on Foods of the American Medical Association, and its acceptance seal granted for use in advertising.

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TO ELIMINATE BREAKFAST IS DANGEROUS

The fad of slenderizing has become as great a health problem as diseases, and those persons who habitually go without breakfast are perhaps most guilty of all, is the opinion of the State Medical Society of Wisconsin.

The quantity of food needed at breakfast depends on the meal that is to follow. For those who are accustomed to a heavy meal at noon, fruit, some kind of bread and a beverage will be sufficient for breakfast. For those who merely lunch at noon, a cereal should be added.

Marked underweight or overweight are equally dangerous and foolish. To those who are afraid of excess baggage in the form of weight, the suggestion is made that the light breakfasts outlined are quite necessary. It is more likely that an excess of sugars and starches is the chief cause of a tendency to store fat or that the amount eaten makes a difference.

WATER INTAKE SHOULD BALANCE WATER LOSS

As water is continually lost to the body through various paths, it is obvious that the output must be adequately replaced if a healthy "balance" is to be maintained. The water supply comes from food and drink. Often as much as 3 quarts of water is taken into the body in solid food and often the total intake is 5 quarts. It has been noticed in experimentation that when a patient for any reason has his diet of solid foods cut off, it is necessary to supply a proportional increase in the liquid foods in order to bring the water intake up to the level of that of an ordinary person in health. In acute disease, a still further increase in water intake should be made in order to compensate for the excessive loss through the skin and lungs, an editorial in *The Journal* of the American Medical Association maintains.

Answers to Cross Word Puzzle
(page 359)

1. Brides.	1. Brooms.
2. Rivers.	6. Rid.
3. Odors.	6a. Ad.
4. May.	7. Ivory.
5. S. D.	9. Dern.
8. R. N. T.	11. Erst.
10. Lad.	12. S. S.

FATHER ASSUMES NEW RÔLE IN HOME

Many children are seeing their fathers more often today than they did a few years ago. Unemployment has changed the position of the father in many families, and to a boy who has always considered his dad a hero, seeing dad more often may tend to have two results. The boy in his play may so irritate the father who is unaccustomed to the child that the boy may lose all his ideals, based on his former idea of what his father had been to him. On the other hand, the unemployed father can keep himself from being hero-worshipped or considered a grouch by being a companion to his young son.

To a boy, nothing is as fine as the friendship of a father who will assume the spirit of boyhood and enter in his play. The father, even if he is busy, will never regret the hours spent with his son. He will be more than paid, the *American Child Health Association* maintains.

GREATER SPEED SPELLS MORE SERIOUS ACCIDENTS

"The higher the speed, the worse the accident" is an axiomatic truth. Those of us who declare that speed does not cause accidents may be right or wrong, but an accident will always be more severe if the car has been driven at a great rate of speed. In fact, a car hitting the concrete retaining wall of an underpass at 40 miles an hour will smash up just about as badly as it would if it fell off the roof of a five-story building. The seriousness of accidents occurring when two speeding cars crash is certainly worth the attention of the state and city officials in regulating speed limits. When no speed limit is set, *Public Safety* points out, the driver of the car sets his pace according to the speed of his particular make of car.

I WISH

I wish I were child of the sea,
Untiring, powerful, gay—
Dashing blue waves back to the shore
And laughing at ships through a salty spray.

I wish I were child of the forest,
Stalwart and free;
Catching a coquettish breeze
For a lonesome tree.

I wish I were child of the sky,
Chasing the clouds all day,
Choosing a red for the sunset
And watching the stars at play.
—L. George Tate in *Social Science.*

"I Like it"

I HOPE I'm a little different from most girls in lots of ways. But I know I'm just like most women in *this* respect. I don't like to be argued with. I don't like to be preached to. And I *won't* be frightened into things! I like what I *like.* And I like a toothpaste with a clean, keen, *refreshing* flavor. I like to know that my dentist approves. And mine does! He says that all *any* toothpaste can do is *clean* teeth. And no toothpaste can do that better than Colgate's. So—I would just like to know *why* I should pay more than 25 cents for toothpaste? That's all I have to pay for Colgate's!

ACCEPTED AMERICAN DENTAL ASSOCIATION COUNCIL ON DENTAL THERAPEUTICS

This seal signifies that the composition of the product has been submitted to the Council on Dental Therapeutics of the American Dental Association—and that the claims have been found acceptable to the Council.

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Listed below are pamphlets on a wide variety of health subjects. Some of them are reprints from HYGEIA, containing material so valuable that the demand for it continues. Read over this list, and on the coupon below circle the numbers corresponding to those of the pamphlets you wish to order. Include remittance with your order.

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4—**Training the Child to Obey**; by Dr. and Mrs. Smiley Blanton; 32 pages..... .15
5—**Entertaining the Convalescent Child**; 16 pages..... .10
6—**How to Hold a Baby Health Conference**; 20 pages..... .10
7—**Your Child's Eyes, Ears, Nose and Mouth**; by Dr. Joseph H. Marcus; 4 pages..... .05

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CROSS COUNTRY RUNNING IN THE HIGH SCHOOL

(Continued from page 320)

not break any records for speed at first but that will come with time.

An important point for distance runners to observe is never to force themselves to run when they are tired. It is better to take a day off and rest. That will get a runner in shape quicker than running when he is fatigued.

On cold days, warm up in the gymnasium before going outside. Jogging a few times around the indoor track, followed by a short rest period and some deep breathing exercises, may save a boy from the disagreeable experience of a "pulled" tendon, a handicap that often means the loss of a whole season of competition.

Finally, have every boy bear in mind that there is no career of less significance and permanence than the ordinary athletic career. The purpose of athletics is not to develop record breaking performers, but to build strong healthy bodies to cooperate with sound minds in promoting usefulness and happiness in later years. Coaches realize daily that the boy who trains sensibly and observes rules of health will in the end be a better athlete and ordinarily will enjoy active life longer than the boy who refuses to be guided.

ADOLESCENT GIRL NEEDS PARENTS' ATTENTION

Adolescence is a trying period for both mother and daughter. Rapid growth, development of the reproductive system, new social adjustments, new types of education, vocational decision and training combine to make the health of the high school girl worthy of notice.

Active in sports, the high school girl should enjoy this play within limits. With development, growth and energetic activity present at this age, the nutrition of the teen age girl is important.

Health standards for the girl of this age should include sufficient sleep, outdoor play within the limits of the child's nutrition and nervous balance, plenty of sunshine, dancing, swimming, tennis, games and other skills, regular medical examination and care of the teeth, and elimination of defects such as eye strain and focal infections.

Too little attention has been paid the girl of high school age, Dr. Hedger writes in *Child Welfare*.

Let showers shower down new waters, new earth, new trees, new health, and new healing powers.
—*The Avesta.*

. . . *but*

Today's Child

—*has strong straight bones!*

SCARCELY a generation has passed since rickets was a common disorder—since weakened bones bent, and natural childish romping turned to awkward plodding.

But today's child can have strong, straight, healthy bones. The discovery of vitamin D has made such sturdy growth a matter of diet which your physician is prepared to prescribe.

And he can do more! Even before bones bend, he can detect impending rickets. With radiographs (x-ray pictures) he can see the line of failing calcium (lime) content. His treatment can be prompt. Rickets can be prevented.

X-rays play an important part in detecting many disorders, in their earliest stages. They afford physicians definite proof of internal conditions. Diagnoses can be based upon visual fact.

So, from their earliest years, take your children to the physician for an annual health audit. Be examined yourself while you're there. For by discovering disease at its very beginnings, there is every opportunity to check it *promptly* and *keep you well.*

HAVE AN ANNUAL HEALTH AND X-RAY EXAMINATION

If you would like to know more about the part x-rays play in maintaining health, send for the new booklet, "X-rays and Health."

EASTMAN KODAK COMPANY, *Medical Division,*
349 State Street, Rochester, N. Y.

Gentlemen: Please send me your free booklet, "X-rays and Health."

Name _____

Number & Street _____

City & State _____

You—like others—will find germ-laden handkerchiefs impossible once you use these sanitary, disposable tissues.

THINK of allowing *your* children to self-infect themselves again and again! Yet they do so with the ordinary handkerchief every time they carry it back to their face during a cold.

You know what happens. Colds hang on and on. They quickly spread through the entire family. It's so easy for children's colds to develop into more serious complications.

Now Kleenex ends this everlasting menace! It's the modern, inexpensive way to prevent self-infection, to check the spread of infection. What's more, it relieves you from that disagreeable job of washing dirty, germ-filled handkerchiefs.

Use and destroy

A clean, sanitary Kleenex tissue is used each time. It's *destroyed* after one use. Germs can't self-infect, can't spread infection, because they're destroyed right with Kleenex. And because Kleenex is so much softer, so far more absorbent than linen, children and adults, too, actually prefer it to soiled, repulsive handkerchiefs.

Once you have a package of Kleenex in your home, you'll find it convenient for scores of uses . . . a dozen times a day. You use Kleenex to remove face creams and cosmetics *the safe way*. It's invaluable in caring for babies, to polish furniture, to wipe spectacles, for manicuring. Former 50c size Kleenex now only 35c at all drug, dry goods and department stores.

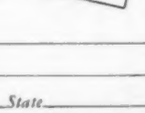
Regular 50c Size Now 35c

KLEENEX *disposable* **TISSUES**

HY-4

KLEENEX COMPANY,
Lake Michigan Bldg.,
Chicago, Illinois.

Please send sample packet of Kleenex.



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In Canada: Address 330 Bay St., Toronto, Ont.

Germ-filled handkerchiefs are a menace to society!

WINDOW SHADES SERVE WELL OR POORLY

With so much of the child's time in school spent in studying, too much attention cannot be given to the light entering the room, an article in the *Kentucky School Journal* suggests.

The window, the window shade and the shadows of trees control the amount of light that is to enter.

The first of these can hardly be remedied after the school has been built, but the teacher can do much in the regulating of shades, and the school board in the type of shades used.

Light should not fall directly on the tops of the children's desks, yet enough light must enter the room. Material, therefore, that is partially translucent and yet sufficiently opaque to prevent glare should be used. Shades must also be easily adjustable to all parts of the window. The shade that is pulled down from the top should not be considered, because often the best light is obtained from the top of the window. Two shades for each window, one to draw up, the other down, is ideal. A shade that can be shifted from top to bottom is also good. The teacher should supervise the regulating of the shades.

The article suggests five points that the teacher can well observe:

First, when possible, the shade should be regulated so as to get the maximum amount of light from the top of the window.

Second, light must not fall directly on the top of the desks.

Third, broken shades should be fixed immediately.

Fourth, all windows should be left unshaded when children are not in the room so the sun can penetrate and disinfect.

Five, when the light is not too strong and the sun does not shine in the windows, the shades should be kept up. These simple directions the teacher can observe with ease.

POSTPONE MEASLES TILL CHILD REACHES 4 YEARS

When a child has reached 4 years there is little risk in having measles if complications do not set in. The greatest mortality caused by measles occurs during the second year of a child's life. About two-thirds of all mortality from measles occurs in children under 3 years of age. Postponement of measles until age 4 is therefore of great practical importance, the *Illinois Health Messenger* reports.

No man ever yet became great by imitation.—Johnson.

STANDARDS OF LIVING ARE LOWERED IN NEW YORK

Not only standards of living but specifically standards of health have fallen noticeably in the last two or three years in New York City. Insufficient and improper nourishment has been the most obvious result of the lowering of living standards. There has been a transformation from the abundant variety characteristic of the diet of even the poor into a monotonous fare consisting largely of starches and sugars.

The most important changes in diet have consisted of less milk; loose milk instead of bottled milk; coffee for children who previously drank milk; fewer fruits and vegetables; no eggs; and meat no oftener than once a week.

The nurses in New York have noted that a contagious disease seems to sweep more rapidly than usual through a family, and that convalescence seems to develop more slowly. They are especially anxious about the effects that may be expected later through the next generation. *Better Times*, weekly welfare bulletin, describes these conditions.

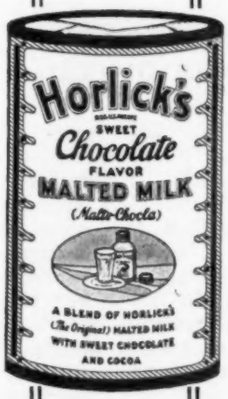
MAY FIRST IS CHILD HEALTH DAY

May Day—a day for filling baskets with flowers! The modern May Day has deeper significance, for May 1 is National Child Health Day, and the sponsors of this day are concentrating their attention on three elementary necessities: the nutrition of children, the importance of an adequate, clean and safe supply of milk, and the protection of motherhood.

The American Child Health Association is using the following slogan in its efforts to make May Day in 1932 a success: "Support your community child health program. It protects your home."

MANY FACTORS PRODUCE ACCIDENTS IN HOME

Fourteen different factors contribute to make accidents in the home numerous, according to an investigation printed in *Safety Education*. In the order of their frequency, they include haste, physical defects, defective appliances, absence of light, use of wrong tools or equipment, matches or dangerous articles in unsafe places, slippery walking surfaces, articles left on floors or stairs, loose rugs, carrying of heavy or large objects, winding stairs, broken utensils, inflammable articles and poor ventilation.



Sturdy and Active—
Building now for life!

By long test, Horlick's the Original Malted Milk has proved itself nourishing and dependable for infant feeding, and has demonstrated its value as a building, strengthening food for the growing child. In addition to its remarkable digestibility, it gives needed elements for strong bones, firm flesh and sturdy bodies.

Horlick's prepared with water, as directed, not only builds and strengthens fast-growing boys and girls, but actually stimulates their appetite (Am. Jrl. Dis. Chil. 40:305). Made with milk, it doubles the nutritive value of plain milk and offers a food-drink which is as delicious as it is beneficial.

Horlick's Malted Milk is a good to excellent source of Vitamins A, B, and G.

Horlick's *The Original* **Malted Milk**

ACCEPTED AMERICAN MEDICAL ASSN

Horlick's **Racine, Wis.**

FREE SAMPLE AND WEIGHT CHART

HORLICK'S MALTED MILK CORP.
Dept. H-15, Racine, Wisconsin

This coupon is good for one sample of either Horlick's Malted Milk (natural flavor) or Horlick's Chocolate Malted Milk and one Weight Chart for recording your child's growth.

Check sample wanted ☐ Natural ☐ Chocolate.

Name.....

Address.....

Mother, keep your baby safe
from germs of infection

Vanta *Sterilized*
GARMENTS FOR BABIES

FOR your sake, Mother, and Baby's, clothe the wee body in garments HOSPITAL-SAFE, free from germs of infection which may enter the slightest of skin abrasions, even those caused by chafing. How relentlessly doctors, nurses, hospitals fight these dreaded germs! Heat kills germs. So each Vanta Sterilized Garment comes to you, vacuum-steam treated for 30 minutes in 250° of heat. Use it without washing.

How wonderful to KNOW that when you open the dainty package, the soft, Vanta Garment is safe to put right on the little body without the lurking dread that it may bear germs of disease. Each Vanta Garment is SAFE for Your Precious! What a weight of fear this lifts from your heart!

And yet these Vanta Sterilized Garments, HOSPITAL-SAFE from germs, cost no more. Vanta safety of heat sterilization costs you nothing. Ask your store for Vanta Sterilized Shirts, Vests, Binders, Knities, Diapers, Sheets, Pillow Cases.

Then Use Vanta SELF♥HELP Garments
Sizes 2 to 12 Years

VANTA-LACO Sterilized Powder, Sterilized Olive Oil and Pure Imported Olive Oil Castile Soap are best for babies—all of highest Vanta Quality. Insist upon having Vanta—recognize it by the Vanta Baby. If you can't get it, send name of store to EARNSHAW KNITTING CO., Dept. 1004, Newton, Mass.

FREE TO YOU

A copy of Vanta's book, "BABY'S OUTFIT," on care and dressing of Babies; revised edition. A full 64 pages of most helpful information, beautifully illustrated.

Earnshaw Sales Co., Inc.
Dept. 1004, Newton, Mass.

Without charge, now or later, send your book "Baby's Outfit," on care and dressing of babies, and illustrated catalog—all in plain envelope.

Name.....

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MANY COAX MORPHEUS TO THEIR PILLOWS

"Cheat Sleep If You Dare" is the title given by Donald A. Laird, director of Colgate University Psychological Laboratory, to an article appearing in *McCall's;* but experiments covering a number of years prove that those of us who get along on fewer than seven or eight hours of sleep have to pay a price.

"During most of our lives, three-quarters of us need a special technic to coax Morpheus to our pillows. Of the many ways to get sleep, reading leads all the rest. Relaxing comes second. By and large, however, it is every man and woman for himself in finding the quickest way to get sleep, with a large number of interesting and unusual idiosyncrasies bobbing up for inducing sleep.

"A Supreme Court Justice buries his face in his pillow, and the editor of a national magazine sticks his feet out from under the bedclothes. A philanthropist reviews Blackstone's analysis of real estate law. A rabbi counts the beats of a clock pendulum and before he has counted 300 he is usually asleep. A college professor eats onions, a journalist calculates the number of days his furnace has been running and how many it still has to run," Professor Laird reports in a recent issue.

RECEDING JAW FORMED FROM DENTAL DEFECT

Is the receding lower jaw a problem for character readers or one for dental hygienists? The latter have disputed the popular conception that the chin betrays character. Their contention is that the early loss of the first permanent molar teeth in the lower jaw produces that "rabbit chin" appearance so often seen in adults. When the child is about 6 years old, there appear in both the upper and the lower jaw important teeth, often called "the keystone of the dental arch." These are the sixth-year molars, the sixth teeth back from the center of the dental arch, two being found on either side, one above and one below. These are the first permanent teeth to erupt, and they come in back of the last "baby teeth." This position often causes them to be mistaken for temporary teeth. That the mother should watch these teeth in her child and have them immediately cared for by the dentist if decay begins is the advice of the Dental Health Council of the Indiana State Dental Association.

A Thrift Light!

A few cents a month pays the electric bill for all the current consumed by a 2-watt NEON GLOW LAMP—even if you burn it all night. Makes perfect night light. Lasts thousands of hours. In stock at your electrical dealer's. Write for folder. General Electric Vapor Lamp Co., 845 Adams St., Hoboken, N.J.

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When I have to take castor oil, be sure it's Kellogg's Tasteless. No castor taste or odor—no upset stomach—always fresh, pure and full-strength; the only castor oil in America in original refinery *sealed* bottles.

And, please, don't let the dealer sell you anything "just as good." There isn't such a thing.

YOUR DAUGHTER.

P.S. Insist on the *sealed* bottle. →

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KELLOGG'S TASTELESS

NURSING MOTHERS

A MAIDEN FORM BRASSIERE *Created Especially* FOR YOU!

Scientifically designed to give you anatomically correct support and to **preserve your figure**—both during and after the nursing period. This Maiden Form brassiere, **recommended by doctors**, enables you to wear the smartest of dresses, with perfect confidence in the trim contour of your silhouette. The breast sections are delicately rubber lined; the front opens easily and quickly. No. 7005, of dainty flesh-colored mesh, is priced $1.50. If your dealer cannot supply you, write: **Maiden Form Brassiere Co., Inc., 245 Y-F Fifth Ave., N. Y. C.**

The Maiden Form BRASSIERE

Reg. U. S. Pat. Off.

GIRDLES · GARTER BELTS

Mention HYGEIA when writing to Advertisers

REGISTRATION OF BIRTH ESTABLISHES MANY RIGHTS

One little item of great significance that parents should never neglect is the registration of the birth of a child. The birth certificate establishes legally the parents' right to a child and avoids time, expense and worry that may result from having to establish this right in court. Beyond this, birth certificates are of value in other procedures that complicate our socialized life.

The registration of a birth, the California state department of public health asserts, is useful (1) in establishing rights in inheritance of property; (2) in settlement of insurance, pensions and claims of widows and orphans; (3) in seeking admission to school and to military service; (4) in establishing a right to vote, to marry, to drive an automobile; (5) in applying for employment in industries; (6) in connection with certain criminal proceedings; (7) in securing allowance on income tax; (8) in proving citizenship, securing passports, obtaining exemption from military service in foreign countries, and in seeking readmission into the United States; (9) in holding certain offices and securing admission to certain professions, and (10) in obtaining compensation for the families of disabled veterans.

GRAPEFRUIT, PIMENTO HAVE VITAMIN C POTENCY

Recent interest has been evident in studies to determine the antiscorbutic potency of various canned and dried foods. Grace MacLeod and Lela Booker of Columbia University present the following conclusions in the *Home Economic News:*

"When the results of three foods (canned grapefruit, fresh grapefruit and canned pimento) are compared with the values given by Sherman it is found that these foods have vitamin C potency of the same order of magnitude as that of lemon juice, orange juice and tomatoes (raw or canned).

"Definite antiscorbutic values of packaged dates, raw cranberries and canned cranberry sauce were not obtained, because of refusal of the animals to eat large enough quantities for a long enough period of time; but the results that were obtained indicate that these three foods are poor sources of vitamin C, although raw cranberry is somewhat richer in it than dates or cranberry sauce."

"AW, GEE, WHAT DO I HAVE TO WASH MY HANDS *AGAIN* FOR?"

A MONTH AGO

"SISTER HAD BETTER LOOK OUT. MY CLEAN HANDS RECORD IS AS GOOD AS HERS NOW."

TODAY

Change scowls to smiles

. . . *by making* Clean Hands *a game*

WHAT a job it *used* to be to get Johnny to wash his hands! Constant scolding from mother. Open resentment from Johnny. Clean Hands to him were once just a silly grown-up rule. But it's a different story now! Johnny washes willingly, smilingly—and thrills with pride every time he marks a cross on the Lifebuoy Wash-up Chart. It's just like playing a game.

A happy solution

These clever charts have helped tens of thousands of mothers overcome *their* Johnny's (or Jennie's) aversion to soap and water. Pictures and words explain how to wash, when to wash—and *why*. They show how germs may get on hands from harmless-looking, everyday objects we *have* to touch—and how health may suffer.

The Life Extension Institute says that 27 diseases may be spread by germs our hands pick up. That's why it's so important for children to wash hands often—*always* before meals—with Lifebuoy. For Lifebuoy's rich, creamy, abundant lather removes *germs* as well as dirt—helps safeguard health.

A wonderful complexion soap

Lifebuoy's gentle, deep-cleansing lather keeps complexions fresh, clear and radiant. Protects against embarrassing body odor. Its pleasant hygienic scent, that vanishes as you rinse—tells you Lifebuoy *purifies*.

• • •

FREE: A Wash-up Chart and trial size cake of Lifebuoy for each of your children. Simply fill out and mail coupon below. See how quickly "soap-rebels" change to willing washers. Watch health improve.

LIFEBUOY

HEALTH SOAP

for face, hands, bath

free

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Please send me, free, Lifebuoy trial cakes and Wash-Up Charts for my.....children.

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Address.....

City..... *State*.....

FRESHEN UP *that* WINTER-WEARY SKIN!

Skin starved from indoor steam heat. Skin exposed to winter winds. Skin weary with the shocks of heat then chill. All this spring, use Nivea* Creme, and put back the freshness that winter took out.

Nivea is the only creme containing Eucerite*, which makes it go deep and work deep to get out the dryness of winter months. Buy a tube from your druggist . . . use it for general skin care, for night creme, for cleansing and powder base. If you want to try it first—and see how effectively it works—send this coupon for a free trial tube.

NIVEA CREME

*Trade Marks Reg. U. S. Pat. Off.

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200 Hudson Street, New York, N. Y.

Please send me a trial tube of Nivea Creme without charge.

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City.....

HIGH SCHOOL DRIVERS CREATE ACCIDENT PROBLEM

Although automobile drivers of the high school age are able to handle cars efficiently, their desire for speed and their willingness to take a chance give them an accident record worse than that of any other age group. It was found that the number of operators under the age of 20 who are involved in personal injury accidents is 39 per cent greater than the average for all ages combined.

This then constitutes a situation that the high schools cannot disregard. But what can be done about it? The Education Division of the National Safety Council recently published a program for the organization of high school motor traffic clubs. The plan involves a voluntary membership of students who legally drive cars, who participate actively in existing traffic safety activities in and about the school, or who expect to start driving in a short time. Such problems as regulation of parking near the school building, regulation of student traffic, instruction in the mechanics of the automobile, regular inspection of cars and tests for operators' licenses are included.

MOTHERHOOD OF JAPAN TURNS MODERN

"Good wifehood and wise motherism" were the sole virtues expected of women in Japan after marriage. A three-fold precept of obedience was the duty of womanhood: first, to obey living parents; second, to obey their husbands after they were married; and third, to obey their sons when they became old. During the last fifty years, Japan has taken great forward steps in the training of women. Women of Japan are finally becoming socialized by work outside of their own home and particularly by colleges and other opportunities, according to *Childhood Education*.

Just Published

EXERCISE *and* **ITS PHYSIOLOGY**

By ADRIAN G. GOULD, Ph.D., M.D.
Ass't. Medical Adviser, Cornell University
And JOSEPH A. DYE, Ph.D.
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A complete study of the Physiology of Exercise embodying the latest material available. Fully illustrated with Halftones, Line Drawings, Charts and Color Plates. $3.00.

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Beautiful buildings and spacious grounds.
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Personal supervision given each pupil.
Resident physician. Enrollment limited.
Endorsed by physicians and educators.
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Beverly Farm (INC.) *A Home and School for Nervous and Backward Children and Adults*
220 acre farm. 7 bldgs. New school gymnasium. 35th year. Industrial and school training given. Dept. for birth injury cases. GROVES BLAKE SMITH, M.D., Supt. **Godfrey, Ill.**

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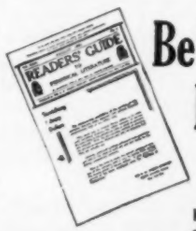
ENGLEWOOD HOSPITAL Be a Nurse. Three year course. State accredited. Beautiful nurses' home. Full maintenance and monthly salary. Four year High School course required. For further information, write to Englewood Hospital, 6001 South Green Street, Chicago, Illinois.

"—AND IN WHAT SCHOOL WERE YOU TRAINED?"
That is the inevitable question when one applies for a professional position. Nursing is no exception. The standing of the school counts. In arranging the announcements of nurses' training schools, the greatest care has been taken to include only schools connected with hospitals of standing. All hospitals on this page are on the hospital register of the American Medical Association. They provide **"TRAINING THAT COUNTS."**



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HYGEIA

The librarian will be glad to show you how easy it is to use.

The library will probably have just the magazines you wish, new or old. If not, we can supply them promptly and reasonably.

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SCARS, VEINS, Etc.

My own facial birthmark caused me to discover at last the one perfect way to hide birthmarks, scars, blotches, veins, etc.

My "Covermark" preparation is endorsed by Good Housekeeping Institute and leading skin specialists. Used by hundreds of grateful women and men who longed to solve this cruel problem. A new discovery. Absolutely safe. It will win *your* gratitude. I am no longer handicapped. No need for *you* to be.

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Write to me for free information.

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GENUINE
GLUTEN FLOUR
Guaranteed to comply in all respects to standard requirements of the U. S. Department of Agriculture.
Manufactured by
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A real old-fashioned, honest-to-goodness Graham Flour; exactly like that made by Dr. Graham
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Special Supports for LITTLE TOTS

The tender tissues of little tots call for special supports that, while effective, must not be harsh. This one (No. 98), known as a colitis belt, is an abdominal support which relieves intestinal distension and affords a slight uplift. It is proportioned to age in size and width and regulated to degrees of tightness at the back.

Write for special information.

CAMP
Physiological Supports
S. H. CAMP AND COMPANY
Manufacturers, JACKSON, MICHIGAN
Chicago 1056 Merchandise Mart — New York 330 Fifth Avenue

THUMB SUCKING
Quickly and Safely Stopped by Most Approved Means
SAFETY THUMB GUARDS
Send $1.75 for a pair with full directions. State Age of child. Satisfaction guaranteed or money refunded.
The Safety Thumb-Guard Co.
Dept. H, New Haven, Conn.

READJUSTMENTS TO OLD AGE MUST BE CONSIDERED

"Getting old" is an expression middle aged men and women in general fear when it is applied to themselves. They become morbid because digestion isn't what it used to be and active sport just seems to take the breath away. There is only one solution to the problem and that is a correct mental and emotional attitude, a recent article of the United States Public Health Service suggests.

Readjustments are important and must be made. Within the body is the gradual replacement of body cells by connective tissue, a process one might call scarring. The tissues and organs then have less vigor and recuperative power. For these reasons new habits must be formed. A person must be more careful of the type and the amount of food he consumes. Hours for sleeping should be increased and exercise should be limited. The whole idea is not one of specific rules of conduct, but one of moderation in all things.

"It may be observed, however, that mere years alone are not necessarily a safe guide as to when one has reached middle age. There are numerous individual variations with regard to these bodily changes; one man will show them comparatively early in life, another much later. In other words, a man is not so much as old as his years as he is as old as his body. It has been well said that a man is as old as his arteries, because heart and arteries are necessary to existence, and when they undergo the changes incident to middle and old age they are no longer capable of meeting the demands which were formerly made upon them. These demands must now be reduced to their capacity," the article explains.

TEN RULES FOR HEALTH AND SOUND TEETH

Plenty of vegetables, both raw and cooked.

Ample supply of fruits, especially the citrus kind.

One quart of milk every day.

Bread one day old, to exercise jaws.

Brush the teeth night and morning.

Play in the open air.

Frequent exposure to the sun's rays.

Less candy and fewer colored drinks.

Wider use of cod liver oil (in winter).

Periodic visits to the dentist.

—Shirley W. Wynne, M.D.

SEND COUPON FOR DEMONSTRATION PACKAGE

MOTHER!

END DRUDGERY *in* DIAPER CARE

HERE is good news for mothers—an end to all drudgery and all unpleasantness in diaper care. Dennison's Babypads, the new sanitary diaper linings, used inside the cloth diaper, protect it from customary soiling. Used *once* they are instantly disposed of—simply dropped in the toilet and flushed away.

Babypads also guard against the risk of "diaper rash", as doctors, nurses and hospitals advise. For, even after repeated rinsings, cloth diapers may retain impurities (soap alkalies, uric acids) that cause painful irritations to baby's tender skin.

For Your Satisfaction and Baby's Safety *Insist on*
Dennison's BABYPADS

Babypads are made of an entirely new, especially prepared material—downy-soft and always absolutely fresh and clean. The name Dennison is your assurance of their quality and purity. Insist on BABYPADS.

Get Babypads now at department, dry goods and drug stores. 50 for 25c, 250 for $1. Or send this coupon and 2c postage for demonstration package—a full day's supply of Babypads.

AVOID RISK of diaper irritation. Use a Babypad every time the cloth diaper is changed.

Send Coupon for Demonstration Package

Dennison's BABYPADS
Registered U. S. Patent Office—Patents Pending
THE NEW SANITARY DIAPER LININGS

Margaret Booth, Registered Nurse
Dennison's, Framingham, Mass.
Please send me a demonstration package of Babypads. I enclose 2c postage.

Name

Street (or R. F. D.)

City State R-219

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They actually cost less than ordinary vegetables—*those I would have to prepare*

WHEN THE COST of Gerber's Strained Vegetables is compared with the cost of buying ordinary vegetables and cooking them—to say nothing of the time and effort required—the Gerber Products represent a real economy in my food budget. And a real saving of money and energy as well.

But Their Only Real Justification Is Their Superiority

The saving in time, money and effort is of no more importance to me, however, than it is to any other mother. The real reason—*and the only real reason*—I use the Gerber Strained Vegetable Products as the daily vegetable supplement to my baby's milk feedings is because baby's doctor told me to. He explained why the Gerber scientific process of cooking and straining with special equipment, from which oxygen is excluded, conserves important vitamin and mineral salt values partially destroyed in open vessel cooking in the home. I started using the Gerber Products because I knew they were scientifically prepared, and better for baby. The discovery that they save money as well as time and effort was just a pleasant surprise that baby and I both appreciate.

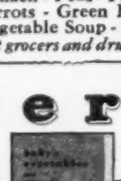
ACCEPTED by the AMERICAN MEDICAL ASSN. Correspondence on Foods

Send for Free Booklet

If you are not using Gerber's Strained Vegetables in providing for your baby's daily vegetable feedings—ask your doctor about the Gerber Products. Fill out the coupon below and mail it today for a free copy of the Gerber booklet. In addition to its complete description of the Gerber Products—it contains many suggestions that you will find helpful in training baby's mealtime habits.

Strained **Tomatoes**
Spinach - Peas - Prunes
Carrots - Green Beans
Vegetable Soup - Beets
15c at grocers and druggists

Gerber's
STRAINED VEGETABLES



Dr. Lillian B. Storms, Ph.D.,
Gerber Products Co.,
Fremont, Mich.

Please send free copy of your booklet, "Baby's Vegetables and Some Notes on Mealtime Psychology."

Name _____

Address _____ H-2

DRY GOODS SALESMEN HAVE HIGH COLOR BLIND RATING

It was recently discovered that 7 per cent of all dry goods salesmen were color blind without knowing it. The average number of color blind persons in the male population is supposed to be only about 1 per cent; it is less among women. Moreover one would not expect to find color blindness so common among persons engaged in this kind of work, especially since that defect must be a serious handicap under such circumstances. From this study, it is possible that there is a larger percentage of color blind persons than was ordinarily believed. Dr. Sappington who has recently made this experiment concludes that a large number of the unsatisfactorily explained automobile accidents may be due to color blindness.

HANDLE CHILD'S ARMS CAREFULLY

Swinging a child around by his arms may be a lot of fun for both parent and child, but it should be tabu in every home. The nerves of the arm of a small child are near the surface at the neck and the armpit; therefore they cannot be subjected to any unusual stretching. Permanent injury, such as paralysis of the arm, has been known to result from such playful activity, Dr. Dwight F. Clark of Northwestern University Medical School warns parents. Hooking the fingers under the child's armpit in lifting him also has detrimental effects. An overstretching or division of the fibers of the nerves may lead to the interruption of the nervous current supplying the arm or may rupture one of the numerous blood vessels winding about the nerves.

NEGLECTED AGE COMES FROM 1 TO 6 YEARS

The years from 1 to 6 have been characterized as the neglected age. From birth until the child is 1 year old, medical attention is carefully administered, but until the child is placed in first grade, he receives little attention, Dr. E. L. Bishop writes in *Tennessee Health Briefs*.

"All preschool children should have regular physical examinations, just like adults and school children, except the examinations should be more often. Their defects should be discovered early and corrected promptly; health habits should be begun when quite young and commonsense rules as to food, rest, sleep and play are particularly important at this age."

A DIABETIC'S OWN COOK BOOK

by Stella H. Lyons

With a Foreword by Logan Clendening, M.D.

Here is a book that the diabetic patient can safely acquire, with the knowledge that the appetizing recipes for everything from soups to salads, to say nothing of desserts, remain strictly within the dietetic rules prescribed by the most exacting physicians.

cloth, 5 x 7¾ inches, 98 pages & index, $2.00.

BORZOI BOOKS ALFRED·A·KNOPF

RESULTS! Are Certain!

DERBAC Shampoo Soap, used weekly, will quickly conquer scalp infections and insure hair health. Internationally known and recommended by Boards of Health and Education. Free: "20 cake to physicians and Shampoo" nurses. registered

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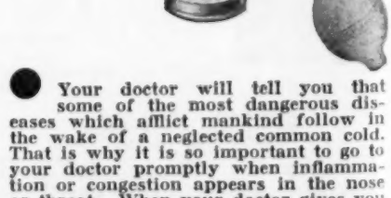
DON'T TAKE CHANCES



Your doctor will tell you that some of the most dangerous diseases which afflict mankind follow in the wake of a neglected common cold. That is why it is so important to go to your doctor promptly when inflammation or congestion appears in the nose or throat. When your doctor gives you a prescription for a solution to be sprayed, ask him to tell you the number of the DeVilbiss Atomizer for you to get. You will find it at any drug store.

DeVilbiss

★ ★ ★

The DeVilbiss Company, Toledo, Ohio, headquarters for atomizers and vaporizers for professional and home use

LOOK FOR FIRE HAZARDS

IN YOUR HOME

1. Is there any rubbish, such as old papers or broken furniture, in the attic, basement, cellar or yard?
2. Are walls, floors, ceilings and partitions protected from the overheating of stoves, furnaces and pipes?
3. Are ashes kept in metal containers?
4. Do you keep your matches away from heat and out of reach of the children?
5. Are the chimneys in good repair?
6. When were they last cleaned?
7. Do stovepipes pass through attic or closets?
8. Do you ever keep or use gasoline in the house?
9. Are screens provided for open fireplaces?
10. Are any gas connections made with rubber tubing?
11. Name all the purposes for which kerosene is used in your home.
12. Have you any fire extinguishers?
13. Where is the fire alarm box nearest your home?
14. Do you know how to turn in an alarm?

IN YOUR SCHOOL

1. Are fire escapes obstructed or out of order? Are they used in fire drills?
2. Are all exits clear?
3. Do doors to the outside open in or out?
4. Are doors equipped with panic locks?
5. Are aisles obstructed?
6. Can water pails, standpipes, hose and fire extinguishers be reached easily? Are they in good condition?
7. Is the fire alarm system operative?
8. How often are fire drills held?
9. How long did it take to vacate the school?
10. Where is the nearest fire alarm box?
11. Are there accumulations of dirt or rubbish on the premises?
12. Are waste receptacles emptied daily?
13. Does heating equipment appear to be in good condition?
14. What disposition is made of ashes?

—Safety Education.

Today well lived makes
Every yesterday a dream of happiness,
And every tomorrow a vision of hope.

—From the Sanskrit.

Better shape
..prove why before you buy

Tek is the one brush that goes behind your front teeth without crowding. Prove it by this interesting "hand test" before you buy Tek. See how it fits the curve of your thumb and forefinger . . . just like the sharp curve of your dental arch. Tek's cleansing action is never cramped. It cleans teeth and massages gums at each stroke. Tek Bristles are laboratory-selected for purity, quality, long life. They are not subjected to artificial "doping". Tek comes to you sterilized, Cellophane-sealed, ready for use. And you pay no premium for its BETTER SHAPE and BETTER BRISTLES. Tek, Jr., for children.

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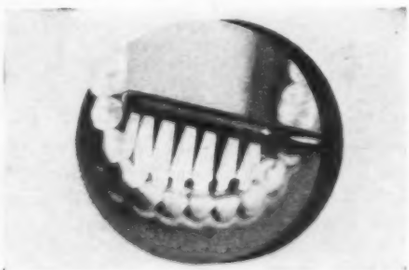
NEW BRUNSWICK NEW JERSEY

Tek
the modern tooth brush



If the Baby Chokes

What if your small child swallowed a toy whistle which lodged in his windpipe and threatened to choke the life out of him before a doctor could arrive? What if a safety pin slipped down his throat and stuck in his esophagus? If you don't know what to do in either case, read "What To Do When a Child Chokes," by Dr. E. W. Hagens, in the May HYGEIA. As long as youngsters will put everything they possibly can into their mouths, it pays to be prepared for such an emergency.

Feeding the Family—

Do you order your groceries over the phone? Or do you personally select at least your fruits, vegetables and meats? Miss E. M. Geraghty tells you why it pays to do the latter, and she tells you how to do it to advantage in "How, Where and What to Buy," in the May HYGEIA. This is the first of a series of articles by this well known dietitian and food expert, on "Foods—Their Selection and Preparation," which will appear in HYGEIA.

What Do You Know about Diabetes?

Do you know what insulin can do for diabetics? And do you know how the development of this disease can be prevented? Since diabetes has advanced to sixth place on the mortality lists, it would be well to arm yourself with this information. If you have diabetes, this article by Dr. Benjamin Jablons will help you to cooperate intelligently with your physician—and that, according to Dr. Jablons, is "more than half the battle."

"The Blood Pressure Racket"

What is high blood pressure? Who is apt to have it? What takes place after we get it? What does obesity have to do with it? Dr. A. Lee Briskman answers all these questions in his article, "The Blood Pressure Racket," in the May HYGEIA. Since one out of five adults has high blood pressure, it might pay you to read this article!

Read These in The May HYGEIA!

These four articles will appeal to thousands of HYGEIA readers. But if you have no baby, if you don't have a family to feed, and if you are free from diabetes and high blood pressure, then there are other articles in the May HYGEIA that will interest you! If you are not already a subscriber, take advantage of this introductory offer to become acquainted with the Health Magazine of the American Medical Association.

Introductory 6 months of HYGEIA $1

Regular Subscription, $3.00 a Year

American Medical Association H-4-32
535 N. Dearborn St., Chicago, Ill.

Enclosed is $1.00 for an introductory six months' subscription to HYGEIA. I am a new subscriber.

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